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No

HOW TO USE THE SECTION FINDER



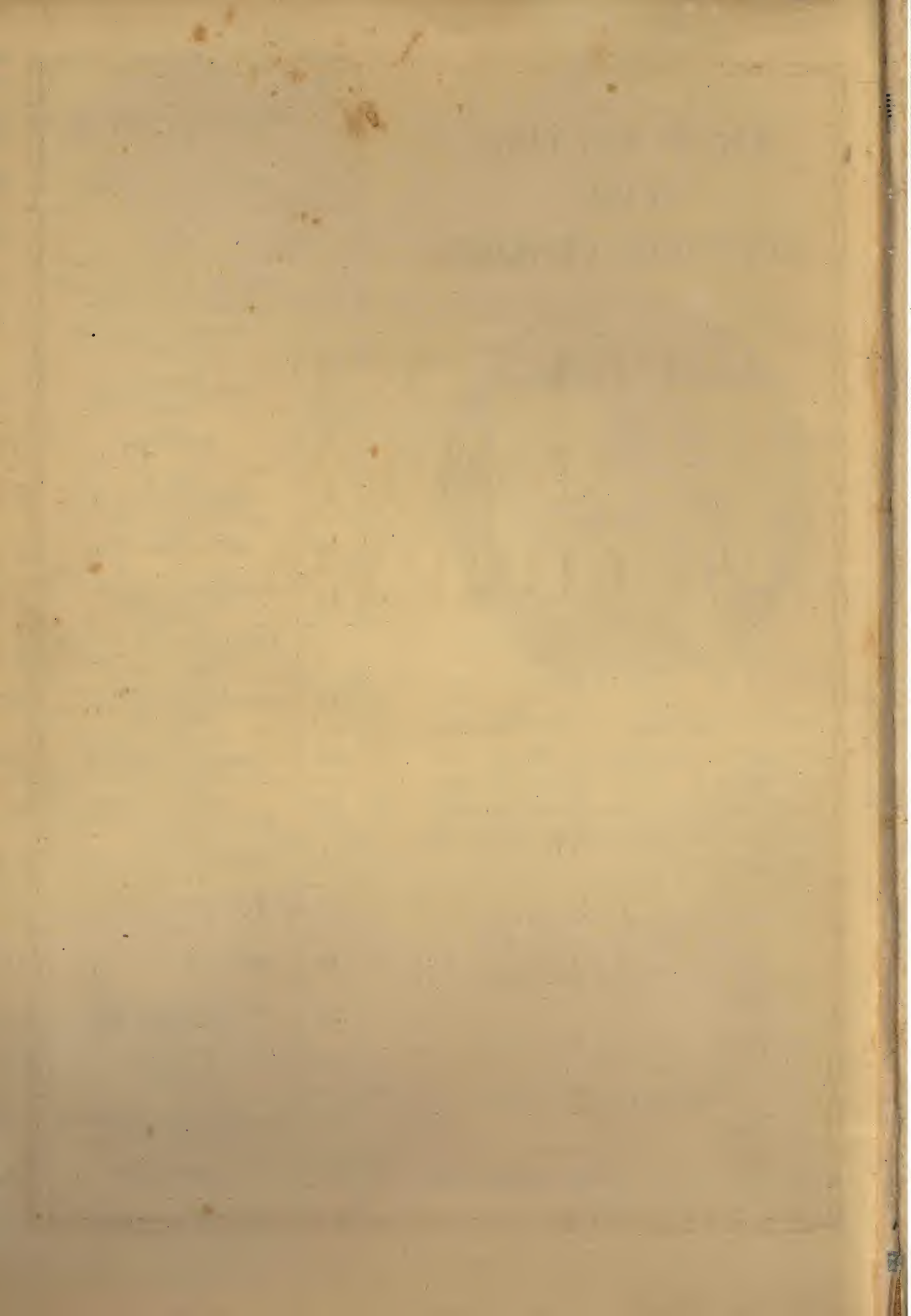
A BLACK GUIDE MARK is printed on the outer margin of the first page of each section of this catalogue. In each instance the guide mark is printed directly opposite the wording on this end sheet which refers to the particular section.

1—Fold back the pages of the catalogue as shown in the illustration, which will expose the edges of the guide marks.

2—Place the thumb of the right hand on the mark opposite the marginal section which contains the kind of goods sought.

This will open the catalogue at the beginning of the desired section.

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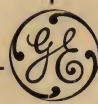
Catalogue No. 25

PETTINGELL- ANDREWS COMPANY

—
B O S T O N
—

Wholesale Distributors

ELECTRICAL
MERCHANDISE



Copyright 1924
BY
R. R. DONNELLEY & Sons Co.

A Graphic Presentation of
PETTINGELL-ANDREWS COMPANY'S
PROGRESS
From 1886 to 1924

Indicating the amount of floor space occupied at various periods
in the company's history

1886—1,000 square feet

1888—2,500 square feet

1890—5,000 square feet

1895—8,000 square feet

1899—16,000 square feet

1903—30,000 square feet

1908—50,000 square feet

1913—75,000 square feet

1920—100,000 square feet

1924—120,000 square feet

1925—Watch for future announcement of still further growth

FOUR outstanding factors that have exerted the strongest influence toward this rapid, uninterrupted growth of New England's leading electrical house are:

1st: The dependable quality of Pettingell-Andrews Company's **MERCHANDISE**.

2nd: Value for value, Pettingell-Andrews Company's prices are always competitive.

3rd: The broad, co-operative nature of Pettingell-Andrews Company's **POLICIES**.

4th: The thoroughness of Pettingell-Andrews Company's **SERVICE**.

*"Not Merely to Sell—But
to SERVE"*

THE DOMINANT POLICY underlying all the activities of Pettingell-Andrews Company—the policy formulated with the organization of the business in 1886, and steadfastly adhered to ever since—is stated in the above headline. It was recognized at the outset that the adoption of that ideal carried with it Responsibility—it demanded a complete realization of the fact that the interests of customers and the company are identical—that neither can derive any real benefit from advantages secured at the expense of the other.

On that sturdy foundation was built the business that has grown to be New England's largest electrical supply house—a business that has witnessed and, in fact, played an important part in the development of electricity as a vital element in our social and industrial life.

Pettingell-Andrews Company started modestly in one room on an upper floor of the building at 95 Milk Street, but in a very short time needed more space and moved to the corner of Franklin and Congress Streets. In 1889, finding larger quarters again necessary, the company moved to 196 Summer Street, but this location also was outgrown in a few years, resulting in a transfer of the business to the corner of Federal and Franklin Streets, where a five-year lease was taken. Before this lease expired, however, the demand for more room again became so insistent that another move was necessary, and the company located in Winthrop Square, taking what was conservatively considered to be sufficient space to provide for a reasonable growth of the business. It wasn't long, however, before the need for

larger accommodations asserted itself so forcibly that it was definitely decided to obtain quarters that would permit gradual expansion without necessitating any further removals. Accordingly, in 1902, the building occupied at present, at the corner of Pearl Street and Atlantic Avenue, was secured. Since then the two adjoining buildings have been added, and today the total floor space occupied by the various departments of the business amounts to 120,000 square feet, or over one hundred times the area of the original establishment.

Today, with electricity beginning to come into its own, with the ever-widening range of convenience, comfort and utility that it offers, there's more significance than ever before attached to the ideal on which the Pettingell-Andrews Company is based—"Not Merely to Sell—but to SERVE."

It means the testing of every electrical product by a critical Engineering Department that selects and sells only the most reliable—the best.

It means the constant maintenance of enormous stocks of electrical supplies, electrical appliances and electric lighting fixtures, permitting a service that can always be depended upon for its accuracy and dispatch.

It means the maintenance of a staff of Illuminating Engineers and a corps of Designers, whose entire time is devoted to the solution of lighting problems on the basis of efficiency and economy.

In the light of the company's past achievements, it is not unreasonable to expect that the coming years will see an even greater development of the Pettingell-Andrews Company than that which is indicated by the last thirty-seven years.

*"To Serve—and Through the Quality
of Service—To Sell"*

SERVICE, as we understand it, means many things—careful filling of orders, prompt shipments, prompt and courteous adjustment of claims, and the proper attention to many other routine sales and clerical details.

BUT—BEYOND THOSE THINGS

comes that added Service—or personal interest—typified by the relations existing between the house of Pettingell-Andrews Company and its customers.

It results in the constant communication of reliable and timely information about the electrical business as a whole—the continual co-operation toward the more efficient and more profitable merchandising of electrical supplies, electrical household appliances, lighting fixtures (both commercial and residential), expert advice and suggestions on sales methods, advertising, window displays, store methods, accounting methods, store arrangement, etc.

There is nothing unselfish in the maintenance of this highly developed form of Service. In helping to make your success we are helping ourselves, for back of all our efforts to serve is the recognition that *our* success can only be—must be—built upon *yours*.

**PETTINGELL-ANDREWS COMPANY
BOSTON**



**"THE HEIGHT OF EXCELLENCE
IN ELECTRICAL GOODS
AND SERVICE"**

GENERAL INFORMATION AND TERMS

How to Order

We have assigned to each article listed a description, or number, which should always be used in ordering, or asking for quotations.

Shipments

Customers should send shipping instructions with all orders. Unless such information is clearly specified, we will use our own judgment in routing shipments. We maintain a traffic department that keeps thoroughly posted on all details connected with the most economical and speedy routing of shipments.

Parcel Post Insurance

Shipments made by parcel post will be insured against loss, unless customers instruct us otherwise. The usual insurance charge for this will be made on all shipments.

Liability

We exercise the utmost care in packing and shipping merchandise, and obtain proper receipts from the transportation companies. In case of loss or breakage, claim should be made on the transportation company, for we cannot be held responsible.

Return of Goods

Before returning goods, *be sure* and apply to us for shipping instructions and "Returned Goods" tags. This assures the rendering of proper credit without delay. We are not responsible for goods returned without our permission.

All possible care is used to fill orders correctly, and we stand ready at all times to rectify mistakes that we make and without any expense to our customer. When the return of goods is made necessary for reasons beyond our control, a charge of not less than 10% will be made to cover the cost of handling.

Prices

All published prices are subject to market fluctuations and to change without notice.

Financial Standing

To avoid delay, purchasers with whom we have no account should accompany their first order with references, or if parcel post or express C.O.D. shipment, or sight draft, bill-of-lading shipment is desired, order should be accompanied by a deposit of 25% of the amount of the order.

Terms

To customers of approved credit our bills are payable in 30 days net, or subject to a cash discount on the following basis: Bills rendered from the 1st to the 15th of the month subject to cash discount if paid by the 25th, and those rendered from the 15th to the 30th of the month subject to cash discount if paid by the 10th of the following month. (See next page.)

Trade Acceptances

We accept and recommend the use of trade acceptances in settlement of accounts.

CASH DISCOUNTS

WITH the exceptions listed below, all items are subject to a cash discount of 2% unless otherwise specified:

BX Armored Conductors—All Types BX and Greenfield Connectors and Bushings Greenfield Steel Conduit—All Types Junction—Outlet—and Switch Boxes (not including Sheet Steel Cabinets) Locknuts and Bushings Rigid Iron Conduit	} 5%
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Cords and Fixture Wire—All Types Deltabeston Wire and Cords Lead Covered Wire and Cables Okonite Products Parkway Cables Rubber Covered Wires and Cables Varnished Cambric Wire and Cables Wood Crossarms	} 1%
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Annunciator and Office Wire Bare Copper Wire Magnet and Resistance Wire Slow Burning Wire Weatherproof Wire	} ½ of 1%
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Circuit Breakers Fans Fibre Conduit and Parts G-E Oil Fuse Cutouts—formerly D & W G-E Street Fixtures and Parts Instruments Lightning Arresters Meters Motors Novalux Units Oil Switches Porcelain Insulators, high voltage—All Types Railway Material Rheostats G-E Switchboard Devices Transformers and Cutouts Union Metal Ornamental Standards	} Net
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(See preceding page for terms)

PETTINGELL-ANDREWS COMPANY

“The Height of Excellence in Electrical Goods and Service”



We Are New England Distributors for

RADIO APPARATUS

produced by America's
leading manufacturers



RADIOLA RECEIVING SETS
AND RADIOTRONS
MAGNAVOX LOUD SPEAKERS
BRANDES HEAD SETS
AND TABLE TALKERS
AND
RADIO PARTS

The complete line is illustrated and described in separate catalogs that we will be pleased to supply on request. The services of our staff of radio experts are always available for the assistance of our customers.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"



As New England Distributor for the
GENERAL ELECTRIC COMPANY
we are in a position to supply our customers
with a complete line
of
G-E WIRING DEVICES



G-E Wiring Devices not only excel in quality and are competitive in price, but carry with them the additional value of a big consumer acceptance.

The vast resources of the General Electric Company, its constant research work, engineering skill and ample manufacturing facilities are devoted to the continual development of new or improved applications of electricity to daily needs—making power conveniently accessible and easily controlled in the home, office and factory.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"



**G-E Fluted-catch Sockets**

Complete interchangeability between all caps and bases and all bodies having the fluted or wrinkled form of shell fastening—absolute freedom from mechanical defects, short circuits, or shocks,—spacious and accessible wiring grooves and binding screws—these are only a few of the many reasons why they are known as Reliable Wiring Devices.

No. GE302 Fluted-catch Pull Sockets**With 1/8-inch Cap****250 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE302	B	25	250	65	\$1.10

No. GE593 Fluted-catch Pull Sockets**With 1/8-inch Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE593	B	25	250	70	\$1.32

No. GE308 Fluted-catch Pull Sockets**With 3/8-inch Cap****250 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE308	B	25	250	85	\$1.22

No. GE595 Fluted-catch Pull Sockets**With 3/8-inch Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE595	B	25	100	40	\$1.44

No. GE314 Fluted-catch Pull Sockets**With Pendant Cap****250 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE314	B	25	250	60	\$1.10

No. GE602 Fluted-catch Pull Sockets**With Pendant Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE602	B	25	250	65	\$1.32

No. GE300 Fluted-catch Key Sockets**With 1/8-inch Cap****250 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE300	B	25	500	125	\$.66

No. GE378 Fluted-catch Key Sockets**With 1/8-inch Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE378	B	25	500	135	\$.72

No. GE306 Fluted-catch Key Sockets**With 3/8-inch Cap****250 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE306	B	25	250	70	\$.78

No. GE380 Fluted-catch Key Sockets**With 3/8-inch Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE380	B	25	250	80	\$.84

No. GE312 Fluted-catch Key Sockets**With Pendant Cap****250 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE312	B	25	500	115	\$.66

No. GE382 Fluted-catch Key Sockets**With Pendant Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE382	B	25	500	125	\$.72

No. GE301 Fluted-catch Keyless Sockets**With 1/8-inch Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE301	B	25	500	115	\$.60

No. GE307 Fluted-catch Keyless Sockets**With 3/8-inch Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE307	B	25	250	65	\$.72

No. GE313 Fluted-catch Keyless Sockets**With Pendant Cap****660 Watts, 250 Volts**

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE313	B	25	500	105	\$.60



No. GE771 Fluted-catch Pull Socket Bodies

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE771	B	25	250	55	\$.96

No. GE773 Fluted-catch Pull Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE773	B	25	250	60	\$1.18

No. GE769 Fluted-catch Key Socket Bodies

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE769	B	25	500	100	\$.52

No. GE772 Fluted-catch Key Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE772	B	25	500	110	\$.58

No. GE770 Fluted-catch Keyless Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE770	B	25	500	90	\$.46

No. GE749 Fluted-catch Socket Caps

1/8-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE749	B	25	500	30	\$.14

No. GE750 Fluted-catch Socket Caps

1/4-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE750	B	25	100	10	\$.32

No. GE751 Fluted-catch Socket Caps

3/8-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE751	B	25	250	20	\$.26

No. GE1265 Fluted-catch Socket Caps

1/2-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE1265	B	25	50	6	\$.38

No. GE752 Fluted-catch Socket Caps

3/8-inch Male Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE752	B	25	100	10	\$.32

No. GE757 Fluted-catch Pendant Caps

With Moulded Compound Bushing
With Auxilliary Bushing

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE757	B	25	500	25	\$.14

No. GE1612 Fluted-catch Strain Relief Pendant Caps

With Porcelain Bushing, 13/32-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE1612	B	25	500	35	\$.14

No. GE1613 Fluted-catch Strain Relief Pendant Caps

With Porcelain Bushing, 1/2-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE1613	B	25	100	10	\$.14

No. GE764 Fluted-catch Socket Caps

1/8-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE764	B	25	100	10	\$.42

No. GE765 Fluted-catch Socket Caps

1/4-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE765	B	25	50	5	\$.50

No. GE766 Fluted-catch Socket Caps

3/8-inch 90° Angle

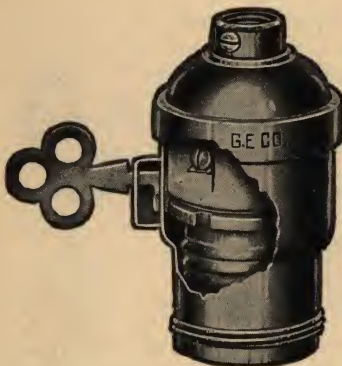
Standard finish, brush brass.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price Each
GE766	B	25	50	5	\$.48



G-E Locking Sockets



G-E Locking Sockets are recommended for use in hotels, apartments, industrial plants, mines and other places where the theft of lamps is easy and the danger of detection slight.

These are similar to other G-E types in size and general appearance but are equipped with an ingenious swiveling screw shell controlled by a lock projecting slightly from the side of the shell. Any attempt to remove the lamp in the ordinary way merely causes the screw-

shell of the socket to swivel freely with it, causing no damage to either the socket or the lamp.

They also prevent the unauthorized use of current for high wattage lamps and electrical appliances.

Can be furnished in the following types: Key, Keyless and Pull, with all the usual styles of caps and bases. All types have lamp grips in screw shells.

Locking keys must be ordered separately, as they are not furnished as part of the socket.

No. GE946 Fluted-catch Locking Pull Sockets

With Lamp Grip— $\frac{1}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE946	B	25	100	40	\$1.74

No. GE949 Fluted-catch Locking Pull Sockets

With Lamp Grip— $\frac{3}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE949	B	25	100	40	\$1.86

No. GE950 Fluted-catch Locking Pull Sockets

With Lamp Grip
Pendant Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE950	B	25	100	40	\$1.74

No. GE1164 Fluted-catch Locking Pull

Socket Bodies
With Lamp Grip

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1164	B	25	100	35	\$1.60

No. GE440 Fluted-catch Locking Key Sockets

With Lamp Grip
 $\frac{3}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE440	B	25	100	35	\$1.32

No. GE435 Fluted-catch Locking Key Sockets

With Lamp Grip— $\frac{1}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE435	B	25	100	35	\$1.20



No. GE444 Fluted-catch Locking Key Sockets

With Lamp Grip—Pendant Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE444	B	25	100	35	\$1.20

No. GE774 Fluted-catch Locking Key

Socket Bodies
With Lamp Grip

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE774	B	25	100	30	\$1.06



No. GE441 Fluted-catch Locking Keyless Sockets

With Lamp Grip— $\frac{3}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE441	B	25	100	32	\$1.26



No. GE445 Fluted-catch Locking Keyless Sockets

With Lamp Grip—Pendant Cap

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE445	B	25	100	32	\$1.14



No. GE775 Fluted-catch Locking Keyless

Socket Bodies
With Lamp Grip

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE775	B	25	100	25	\$1.00



No. GE436 Fluted-catch Locking Keyless Sockets

With Lamp Grip— $\frac{1}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE436	B	25	100	32	\$1.14



No. GE434 Fluted-catch Key for Locking Sockets



Locking keys must be ordered separately, as they are not furnished as part of the socket.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE434	B	10	100	2	\$2.20



No. GE749 Fluted-catch Socket Caps

1/8-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE749	B	25	500	30	\$.14

No. GE764 Fluted-catch Socket Caps

1/8-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE764	B	25	100	10	\$.42

No. GE750 Fluted-catch Socket Caps

1/4-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE750	B	25	100	10	\$.32

No. GE765 Fluted-catch Socket Caps

1/4-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE765	B	25	50	5	\$.50

No. GE751 Fluted-catch Socket Caps

3/8-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE751	B	25	250	20	\$.26

No. GE766 Fluted-catch Socket Caps

3/8-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE766	B	25	50	5	\$.48

No. GE1265 Fluted-catch Socket Caps

1/2-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1265	B	25	50	6	\$.38

No. GE752 Fluted-catch Socket Caps

3/8-inch Male Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE752	B	25	100	10	\$.32

No. GE757 Fluted-catch Pendant Caps

With Moulded Compound Bushing and Auxiliary Bushing

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE757	B	25	500	25	\$.14

No. GE1612 Fluted-catch Strain Relief Pendant Caps

With Porcelain Bushing, 13/32-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1612	B	25	500	35	\$.14

No. GE1613 Fluted-catch Strain Relief Pendant Caps

With Porcelain Bushing, 1/2-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1613	B	25	100	10	\$.14

Threaded ring, knurled to provide grip, securely holds cap and shell together.

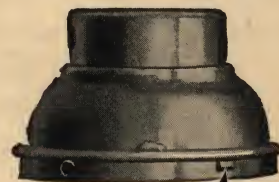
Cap cannot pull loose from shell and no amount of vibration will loosen threaded ring when properly assembled.

Two lugs in the cap fit in any pair of eight slots in the shell effectually preventing any rotation between the cap and shell. After the cap has been fitted to the shell, the flange on the threaded ring fits over the flange on the cap, and the ring is securely threaded to the shell precluding the possibility of unintentional separation.

G-E Threaded-catch Sockets are especially suitable for use on all individually controlled fixtures and portable lamps since they afford security at a point where the ordinary socket is the weakest and in so doing, they not only assure constant service during the life of the fixture or portable but enhance its beauty as well.

A heavy threaded ring holds the cap and shell together and no amount of direct strain, vibration or jarring will cause them to pull apart. The sturdy, threaded ring connection holds with a tenacious grip and will sustain many times the weight of the heaviest reflector.

G-E Threaded-catch Sockets possess great strength without clumsiness, good appearance with dependability. For use wherever a positive, fool-proof joining of cap and shell is essential. Also recommended for use in factories, and similar establishments where conditions are unusually severe and where fixtures without husks are in use.





No. GE975 Threaded-catch Pull Sockets With 1/8-inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE975	B	25	250	68	\$1.10

No. GE976 Threaded-catch Pull Sockets With 3/8-inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE976	B	25	250	88	\$1.22

No. GE977 Threaded-catch Pull Sockets With Pendant Cap

250 Watts, 250 Volts

Standard finish brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE977	B	25	250	63	\$1.10

No. GE895 Threaded-catch Key Sockets With 1/8-inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE895	B	25	500	130	\$.66

No. GE902 Threaded-catch Key Sockets With 3/8-inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE902	B	25	250	73	\$.78

No. GE992 Threaded-catch Key Sockets With Pendant Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE992	B	25	500	120	\$.66

No. GE896 Threaded-catch Keyless Sockets With 1/8-inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE896	B	25	500	120	\$.60

No. GE903 Threaded-catch Keyless Sockets With 3/8-inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE903	B	25	250	68	\$.72

No. GE993 Threaded-catch Keyless Sockets With Pendant Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE993	B	25	500	110	\$.60

Nos. GE1639 and GE1837 Threaded-catch Pull Socket Bodies

Standard finish, brush brass.

250 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1639	B	25	250	60	\$1.00

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1837	B	25	250	65	\$1.22



No. GE1836 Threaded-catch Locking Pull Socket Bodies With Lamp Grip

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1836	B	25	100	37	\$1.64

No. GE1637 Threaded-catch Key Socket Bodies

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1637	B	25	500	105	\$.56

No. GE1729 Threaded-catch Key Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1729	B	25	500	115	\$.62

No. GE1640 Threaded-catch Locking Key Socket Bodies With Lamp Grip

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1640	B	25	100	32	\$1.10

No. GE1638 Threaded-catch Keyless Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1638	B	25	500	95	\$.50

No. GE1641 Threaded-catch Locking Keyless Socket Bodies With Lamp Grip

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1641	B	25	100	27	\$1.04



No. GE1630 Threaded-catch Socket Caps

1/8-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1630	B	25	500	25	\$.10

No. GE1631 Threaded-catch Socket Caps

1/4-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1631	B	25	100	9	\$.28



No. GE1632 Threaded-catch Socket Caps

3/8-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1632	B	25	250	18	\$.22

No. GE1633 Threaded-catch Socket Caps

1/2-inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1633	B	25	50	5	\$.34



No. GE1634 Threaded-catch Pendent Caps

With Compound Bushing and Auxiliary Bushing

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1634	B	25	500	20	\$.10

No. GE1635 Threaded-catch Strain Relief Pendent Caps

With Porcelain Bushing, 13/32-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1635	B	25	500	30	\$.10



No. GE1636 Threaded-catch Strain Relief Pendent Caps

With Porcelain Bushing, 1/2-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1636	B	25	100	10	\$.10

No. GE2236 Threaded-catch Pendent Chain Link Fixture Caps

With Compound Bushing, for 3/8-inch Pipe

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2236	B	10	100	25	\$1.10



G-E Threaded-catch Shadeholder Socket Bodies

Fixture manufacturers will appreciate the convenience and economy of G-E Shadeholder Sockets. They are really a combination husk and socket, two separate parts made up as a single unit.

They may be used wherever a combination of socket and husk is required, as their tasteful design harmonizes with any type of fixture or pendent.

G-E Shadeholder Sockets represent a saving in the first cost of material and in addition, a real economy in the matter of assembling cost.

They have all the mechanical excellence of standard sockets besides being equipped with the G-E Threaded-catch Fastening for the cap and shell. This consists of a threaded brass ring which forms a union between the two parts and holds them securely no matter how heavy the reflector or how much vibration or strain may be present.

G-E Shadeholder Sockets may be had in pull, key and keyless types with shadeholders, and in any desired finish to match the rest of the fixture.

These bodies are interchangeable with all standard threaded-catch caps. Threaded rings are included with bodies.

No. GE1671 Threaded-catch Shadeholder Key Socket Bodies

With 2 1/4-inch Shadeholders
250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1671	B	10	100	35	\$.71



No. GE1838 Threaded-catch Shadeholder Key Socket Bodies

With 2 1/4-inch Shadeholders
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1838	B	10	100	40	\$.77



No. GE1672 Threaded-catch Shadeholder Keyless Socket Bodies

With 2 1/4-inch Shadeholders
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1672	B	10	100	30	\$.65



No. GE1810 Threaded-catch Shadeholder Pull Socket Bodies

With 2 1/4-inch Shadeholders
250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1810	B	10	100	40	\$1.15



No. GE1818 Threaded-catch Shadeholder Pull Socket Bodies

With 2 1/4-inch Shadeholders
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1818	B	10	100	35	\$1.37





G-E Threaded-catch Shadeholder Socket Bodies

These socket bodies have all the mechanical excellence of standard sockets besides being equipped with the G-E Threaded-catch Fastening for the cap and shell. This consists of a threaded brass ring which forms a union between the two parts and holds them securely no matter how heavy the reflector or how much vibration or strain may be present.

Bodies are interchangeable with all standard threaded-catch caps.

No. GE1673 Threaded-catch Shadeholder Key Socket Bodies

With $3\frac{1}{4}$ -inch Shadeholders
250 Watts, 250 Volts

Threaded ring is included.
Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1673	B	10	100	38	\$.86



No. GE1839 Threaded-catch Shadeholder Key Socket Bodies

With $3\frac{1}{4}$ -inch Shadeholders
660 Watts, 250 Volts

Standard finish, brush brass.
Threaded ring is included.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1839	B	10	100	43	\$.92



No. GE1674 Threaded-catch Shadeholder Keyless Socket Bodies

With $3\frac{1}{4}$ -inch Shadeholders
660 Watts, 250 Volts

Standard finish, brush brass.
Threaded ring is included.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1674	B	10	100	33	\$.80



No. GE1814 Threaded-catch Shadeholder Pull Socket Bodies

With $3\frac{1}{4}$ -inch Shadeholders
250 Watts, 250 Volts

Standard finish, brush brass.
Threaded ring is included.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1814	B	10	100	43	\$1.30



No. GE1822 Threaded-catch Shadeholder Pull Socket Bodies

With $3\frac{1}{4}$ -inch Shadeholders
660 Watts, 250 Volts

Standard finish, brush brass.
Threaded ring is included.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1822	B	10	100	48	\$1.52



No. GE222 Fluted-catch Electrolier Pull Sockets

With $\frac{1}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE222	B	25	250	50	\$1.1



No. GE223 Fluted-catch Electrolier Pull Sockets

With $\frac{3}{8}$ -inch Cap
250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE223	B	25	100	25	\$1.22



No. GE372 Fluted-catch Electrolier Key Sockets

With $\frac{1}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE372	B	25	500	95	\$.66



No. GE376 Fluted-catch Electrolier Key Sockets

With $\frac{3}{8}$ -inch Cap
250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE376	B	25	250	55	\$.78



No. GE225 Fluted-catch Electrolier Keyless Sockets

With $\frac{1}{8}$ -inch Cap
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE225	B	25	500	90	\$.60



No. GE226 Fluted-catch Electrolier Keyless Sockets

With $\frac{3}{8}$ -inch Cap
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE226	B	25	250	40	\$.72



No. GE373 Fluted-catch Electrolier Keyless Sockets

Short Shell
With $\frac{1}{8}$ -inch Cap
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE373	B	25	500	75	\$.60



No. GE377 Fluted-catch Electrolier Keyless Sockets

Short Shell with $\frac{3}{8}$ -inch Cap
660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE377	B	25	250	35	\$.72





No. GE723 Fluted-catch Electroliner Push Button Sockets



With $\frac{1}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE723	B	25	500	110	\$.66

No. GE724 Fluted-catch Electroliner Push Button Sockets

With $\frac{3}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE724	B	25	250	65	\$.78



No. GE1615 Fluted-catch Electroliner Socket Caps

$\frac{1}{8}$ -inch Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1615	B	25	500	25	\$.14

No. GE1840 Fluted-catch Electroliner Socket Caps

$\frac{1}{8}$ -inch Thread

With $\frac{7}{32}$ -inch Side Outlet Bushing

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1840	B	25	100	25	\$.18



No. GE1617 Fluted-catch Electroliner Socket Caps

$\frac{3}{8}$ -inch Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1617	B	25	250	18	\$.26

No. GE1619 Fluted-catch Electroliner Pendent Caps

Compound Bushing with Auxiliary Bushing

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1619	B	25	500	22	\$.14



No. GE1614 Fluted-catch Electroliner Strain Relief Pendent Caps With Porcelain Bushing

$\frac{1}{32}$ -inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1614	B	25	500	25	\$.14

No. GE1618 Fluted-catch Electroliner Socket Caps

$\frac{1}{8}$ -inch Thread

90° Angle

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1618	B	25	100	8	\$.42



No. GE1623 Fluted-catch Electroliner Pull Socket Bodies

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1623	B	25	250	45	\$.96

No. GE1685 Fluted-catch Electroliner Pull Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1685	B	25	250	50	\$1.18



No. GE1620 Fluted-catch Electroliner Key Socket Bodies

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1620	B	25	500	85	\$.52

No. GE2238 Fluted-catch Electroliner Key Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2238	B	25	500	90	\$.58



No. GE1622 Fluted-catch Electroliner Keyless Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1622	B	25	500	75	\$.46

No. GE1621 Fluted-catch Electroliner Keyless Socket Bodies Short Shell

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1621	B	25	500	70	\$.46



G-E Fluted Catch Sockets

The devices composing the Fluted Catch Line are not carried in stock assembled but the bodies and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.



No. GE1201 Threaded-catch Electrolier Pull Sockets

With $\frac{1}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1201	B	25	250	55	\$1.10

No. GE1202 Threaded-catch Electrolier Pull Sockets

With $\frac{3}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1202	B	25	100	30	\$1.22

No. GE1195 Threaded-catch Electrolier Key Sockets

With $\frac{1}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1195	B	25	500	100	\$.66

No. GE1196 Threaded-catch Electrolier Key Sockets

With $\frac{3}{8}$ -inch Cap

250 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1196	B	25	250	60	\$.78

No. GE1198 Threaded-catch Electrolier Keyless Sockets

With $\frac{1}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1198	B	25	500	95	\$.60

No. GE1199 Threaded-catch Electrolier Keyless Sockets

With $\frac{3}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1199	B	25	250	45	\$.72

No. GE1204 Threaded-catch Electrolier Push Button Sockets

With $\frac{1}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1204	B	25	500	120	\$.66

No. GE1205 Threaded-catch Electrolier Push Button Sockets

With $\frac{3}{8}$ -inch Cap

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1205	B	25	250	70	\$.78

No. GE1647 Threaded-catch Electrolier Pull Socket Bodies

250 Watts, 250 Volts

Threaded ring is part of socket body.
Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1647	B	25	250	48	\$1.00

No. GE1841 Threaded-catch Electrolier Pull Socket Bodies

660 Watts, 250 Volts

Threaded ring is part of socket body.
Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1841	B	25	250	53	\$1.22

Nos. GE1645 and GE1739 Threaded-catch Electrolier Key Socket Bodies

Threaded ring is part of socket body.
Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1645	B	25	500	90	\$.56
GE1739	B	25	500	95	\$.62

No. GE1646 Threaded-catch Electrolier Keyless Socket Bodies

660 Watts, 250 Volts

Threaded ring is part of socket body.
Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1646	B	25	500	75	\$.50

No. GE1648 Threaded-catch Electrolier Push Button Socket Bodies

660 Watts, 250 Volts

Threaded ring is part of socket body.



Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1648	B	25	500	105	\$.56

No. GE1642 Threaded-catch Electrolier Socket Caps

$\frac{1}{8}$ -inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1642	B	25	500	20	\$1.10

No. GE1643 Threaded-catch Electrolier Socket Caps

$\frac{3}{8}$ -inch Female Thread

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1643	B	25	250	15	\$.22

No. GE1644 Threaded-catch Electrolier Pendent Caps

Compound Bushing with
Auxiliary Bushing

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1644	B	25	500	18	\$1.10



No. 1830 Candle Pull Sockets

1/8-inch Removable Extension Hickey

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1830	B	10	100	25	\$1.50

No. GE1358 Candle Keyless Sockets

1/8-inch Extension Hickey

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1358	B	25	250	20	\$.36

No. GE1609 Candle Keyless Sockets

1/8-inch Removable Extension Hickey

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1609	B	25	250	22	\$.36

No. GE091 Candle Keyless Sockets

1/8-inch Bushing

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE091	B	25	250	18	\$.36

No. GE073 Candelabra Key Sockets

Metal Shell, Multi-catch Fastening

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE073	G (Class 1)	25	100	10	\$.78

No. GE023 Candelabra Keyless Sockets

Metal Shell, Multi-catch Fastening

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE023	G (Class 1)	50	100	10	\$.64

No. 50776 Candelabra Keyless Sockets

Metal Shell, Threaded Connection

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
50776	G (Class 1)	25	100	12	\$.64

No. 9444 Candelabra Keyless Sockets

Porcelain Shell

75 Watts, 125 Volts

Diameter of stud, 5/16-inch, 27 threads per inch.

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
9444	G (Class 1)	50	100	5	\$.42

No. 69444 G-E Candelabra Keyless Sockets

Porcelain Shell, 1/8-inch Female Thread

75 Watts, 125 Volts

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
69444	G (Class 1)	50	100	5	\$.42

No. GE1583 Candelabra Keyless Sockets

Long Porcelain Shell

Diameter of stud, 5/16-inch—27 threads per inch.

75 Watts, 125 Volts

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1583	G (Class 1)	50	100	5	\$.42

No. GE1794 Candelabra Keyless Sockets

Long Porcelain Shell, 1/8-inch Female Thread

75 Watts, 125 Volts

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1794	G (Class 1)	50	100	5	\$.42

Nos. 30856 and 30857 G-E Candelabra and Miniature Porcelain Pendant Keyless Sockets

Wire Leads

75 Watts, 125 Volts

Candelabra

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
30856	G (Class 1)	25	100	10	\$.32

Miniature

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
30857	G (Class 1)	25	100	10	\$.32

No. GE024 Miniature Keyless Sockets

Multi-catch Fastening—1/8-inch Cap

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE024	G (Class 1)	50	100	10	\$.64

No. 50777 G-E Miniature Keyless Sockets

Threaded Connection—1/8-inch Cap

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
50777	G (Class 1)	25	100	12	\$.64

No. GE1163 Candelabra Bayonet Base Key Sockets

Multi-catch Fastening—1/8-inch Cap

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1163	G (Class 1)	25	100	10	\$.78

No. GE025 Candelabra Bayonet Base Keyless Sockets

Multi-catch Fastening—1/8-inch Cap

75 Watts, 125 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE025	G (Class 1)	50	100	10	\$.64



No. GE1216 Snap-catch Porcelain Pull Sockets

250 Watts, 250 Volts

With 1/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1216	B	10	100	70	\$1.90

No. GE1217 Snap-catch Porcelain Pull Sockets

250 Watts, 250 Volts

With 3/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1217	B	10	100	70	\$1.98

No. GE1215 Snap-catch Porcelain Pull Sockets

250 Watts, 250 Volts

With Pendent Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1215	B	10	100	65	\$1.70

No. GE1208 Snap-catch Porcelain Key Sockets

250 Watts, 250 Volts

With 1/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1208	B	10	100	60	\$.92

No. GE1209 Snap-catch Porcelain Key Sockets

250 Watts, 250 Volts

With 3/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1209	B	10	100	60	\$1.00

No. GE1207 Snap-catch Porcelain Key Sockets

250 Watts, 250 Volts

With Pendent Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1207	B	10	250	125	\$.72

No. GE1212 Snap-catch Porcelain Keyless Sockets

660 Watts, 250 Volts

With 1/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1212	B	10	100	55	\$.86

No. GE1213 Snap-catch Porcelain Keyless Sockets

660 Watts, 250 Volts

With 3/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1213	B	10	100	55	\$.94

No. GE1211 Snap-catch Porcelain Keyless Sockets

660 Watts, 250 Volts

With Pendent Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1211	B	10	250	120	\$.66

No. GE1220 Snap-catch Porcelain Push Button Sockets

With 1/8-inch Cap

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1220	B	10	100	65	\$.98

No. GE1221 Snap-catch Porcelain Push Button Sockets

660 Watts, 250 Volts

With 3/8-inch Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1221	B	10	100	65	\$1.06

No. GE1219 Snap-catch Porcelain Push Button Sockets

660 Watts, 250 Volts

With Pendent Cap

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1219	B	10	100	60	\$.78

No. GE1224 Snap-catch Porcelain Socket Caps

1/8-inch

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1224	B	10	100	12	\$.40

No. GE1225 Snap-catch Porcelain Socket Caps

3/8-inch

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1225	B	25	100	12	\$.48

No. GE1283 Snap-catch Porcelain Socket Caps

1/2-inch

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1283	B	10	100	25	\$.58

No. GE1223 Snap-catch Porcelain Socket Caps

Pendent

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1223	B	10	250	35	\$.20



No. GE1843 Snap-catch Porcelain Socket Caps

3/8-inch—90-degree Angle



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1843	B	10	100	25	\$1.00

No. GE1844 Snap-catch Porcelain Socket Caps

1/2-inch—90-degree Angle

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1844	B	10	100	25	\$1.20



No. GE1218 Snap-catch Porcelain Pull Socket Bodies

250 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1218	B	10	100	50	\$1.50



No. GE1842 Snap-catch Porcelain Pull Socket Bodies

660 Watts, 250 Volts



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1842	B	10	100	55	\$1.62

No. GE1210 Snap-catch Porcelain Key Socket Bodies

250 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1210	B	10	250	80	\$.52



No. GE2237 Snap-catch Porcelain Key Socket Bodies

660 Watts, 250 Volts



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2237	B	10	250	85	\$.58

No. GE1214 Snap-catch Porcelain Keyless Socket Bodies

660 Watts, 250 Volts



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1214	B	10	250	65	\$.46

No. GE1222 Snap-catch Porcelain Push Button Socket Bodies

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1222	B	10	100	45	\$.58



No. GE797 Porcelain Socket Caps

1/8-inch with Two-screw Fastening



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE797	B	10	100	10	\$.40

No. GE798 Porcelain Socket Caps

3/8-inch with Two-screw Fastening

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE798	B	10	100	10	\$.48



No. GE1278 Porcelain Socket Caps

1/2-inch with Two-screw Fastening



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1278	B	10	100	20	\$.54

No. GE796 Porcelain Socket Caps

Pendant with Two-screw Fastening

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE796	B	10	250	32	\$.20



No. GE1845 Porcelain Socket Caps

3/8-inch—90-degree Angle with Two-screw Fastening



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1845	B	10	100	22	\$1.00

No. GE1846 Porcelain Socket Caps

1/2-inch—90-degree Angle, with Two-screw Fastening

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1846	B	10	100	22	\$1.20



No. GE799 Porcelain Key Socket Bodies With Two-screw Fastening

250 Watts, 250 Volts



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE799	B	10	250	80	\$.52

No. GE800 Porcelain Keyless Socket Bodies

With Two-screw Fastening

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE800	B	10	250	65	\$.46





No. GE1625 Porcelain Keyless Sockets

Two-screw Fastening—Two-piece Body

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1625	B	10	100	50	\$.70



No. GE530 Porcelain Keyless Sockets

Two-screw Fastening with 3/8-inch Japanned Cast Metal Cap

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE530	B	10	100	55	\$1.10



No. GE469 Porcelain Keyless Sockets

Two-screw Fastening with 1/2-inch Japanned Cast Metal Cap

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE469	B	10	100	55	\$1.10



No. GE2284 Porcelain Pull Socket Bodies

With Two-screw Fastening

250 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2284	B	10	100	....	\$1.50



No. GE2283 Porcelain Push Button Socket Bodies

With Two-screw Fastening

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2283	B	10	100	....	\$ .58



No. 9366 G-E Keyless Porcelain Weatherproof Sockets

660 Watts 600 Volts

With Shadeholder Groove, Spring Center Contact

Standard length of wire, 6 inches; extra length, 18 cents per foot.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
9366	B	10	250	85	\$.36



No. 43310 G-E Keyless Weatherproof Sockets

660 Watts, 600 Volts

Pendent High Heat Resisting Compound with Wire Leads without Shadeholder Groove, Solid Stud Center Contact

Standard length of wire, 6 inches; extra length, 18 cents per foot.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
43310	B	10	250	70	\$.36



No. 60666 G-E Keyless Weatherproof Sockets

660 Watts, 600 Volts

Pendent High Heat Resisting Compound with Wire Leads with Shadeholder Groove, Spring Center Contact

Standard length of wire, 6 inches; extra length, 18 cents per foot.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60666	B	10	250	80	\$.40



G-E Porcelain Removable Ring Pull Socket Receptacles

250 Watts, 250 Volts
Schedule B

For use in kitchen lighting units, ball-light ceiling canopies, hall, porch and bathroom fixtures, etc.

A 1 1/2-inch hole in the fitter or canopy is required for these receptacles.

On insulated chains insulators are located 2 7/8 inches from the mouth of the eyelet. Rubber gaskets between the body and re-

No. GE2288
With 3-inch Insulated Chain and 6-foot Linen Cord

movable ring are standard and receptacles so equipped will be regularly furnished. When specified, asbestos gaskets will be substituted for rubber gaskets without extra charge.

With each receptacle an ex ra double eyelet is provided which can be riveted or spun on the canopy or fitter as a guide for the chain or cord. This bell piece requires a 1 1/4-inch hole.

For Ceiling Use

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2287	10	100	50	\$1.66
GE2288	10	100	50	1.82
GE2289	10	100	50	1.50

For Wall Use

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2292	10	100	50	\$1.50
GE2293	10	100	50	1.66



Benco Weatherproof Sockets

Keyless Type—Medium Base

660 Watts, 600 Volts

Benjamin Type S Shade Holders and Reflectors may be attached to screw thread at bottom of socket. Three finishes: Brushed brass for interior lighting, frosted aluminum for general weatherproof work and natural copper for severe conditions such as seaboard service. Benjamin Lamp Grip, to prevent loosening of lamps under conditions of severe vibration, supplied with sockets at \$.10 advance in list.



No. 4200

Tapped for 1/2-inch Iron Pipe Connection

No.	Casing Material	Finish	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
4200	Aluminum	Aluminum	10	50	15	\$.50
4202	Copper	Brush. Brass	10	50	15	.60
4204	"	Copper	10	50	15	.60

Tapped for 3/8-inch Iron Pipe Connection

No.	Casing Material	Finish	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
4201	Aluminum	Aluminum	10	50	15	\$.50
4203	Copper	Brush. Brass	10	50	15	.60
4205	"	Copper	10	50	15	.60

Bushed for Drop Cord Up to 1/2-inch Diameter

Have strain relief effective on 16 gauge and larger conductors.

No.	Casing Material	Finish	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
4335	Aluminum	Aluminum	10	50	15	\$.50
4336	Copper	Brush. Brass	10	50	15	.60
4337	"	Copper	10	50	15	.60

Benco Pull Chain Sockets

660 Watts, 250 Volts—Medium Base

This is a weather-proof socket with a pull switch mechanism. Enclosing shell has no opening to admit moisture. Chain passes down through a space inside, thoroughly insulated from current carrying parts. Interior is of mold-composition.



Sockets have Benjamin lamp grip.

Cat. No.	Finish	Size Tapped In.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
4225	Pol. Aluminum	1/2	10	50	16	\$1.00
4226	"	3/8	10	50	16	1.00
4207	Brush Brass	1/2	10	50	16	1.00
4208	"	3/8	10	50	16	1.00
4236	Nat. Copper	1/2	10	50	16	1.00
4237	"	3/8	10	50	16	1.00

No. 4207



No. GE900 Keyless Mogul Sockets
One-Piece Brass Shell—Porcelain Lining
With Lamp Grip
3/8-inch Nozzle
1500 Watts, 600 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE900	B	10	50	50	\$2.40

No. GE901 Keyless Mogul Sockets
One-piece Brass Shell—Porcelain Lining
With Lamp Grip
1/2-inch Nozzle
1500 Watts, 600 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE901	B	10	50	50	\$2.40



No. GE1629 Keyless Porcelain Mogul Sockets

One-piece Body

1500 Watts, 600 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1629	B	5	50	50	\$1.10



No. GE1626 Keyless Porcelain Mogul Sockets

Two-piece Body

1500 Watts, 600 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1626	B	5	50	60	\$1.40



No. GE1166 Keyless Porcelain Mogul Sockets

One-piece Body

With 3/8-inch Stamped Brass Cap

1500 Watts, 600 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1166	B	5	50	160	\$1.70



No. GE104 Keyless Porcelain Mogul Sockets

Two-piece Body

With 3/8-inch Japanned Cast Metal Cap

1500 Watts, 600 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE104	B	5	50	165	\$2.00



No. GE1167 Keyless Porcelain Mogul Sockets

One-piece Body

With 1/2-inch Stamped Brass Cap

1500 Watts, 600 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1167	B	5	50	160	\$1.70



No. GE069 Keyless Porcelain Mogul Sockets

Two-piece Body

With 1/2-inch Japanned Cast Metal Cap

1500 Watts, 600 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE069	B	5	50	165	\$2.00



No. 25709 G-E Heavy Duty Keyless Sockets
Aluminum Shell with Porcelain Lining
With Lamp Grip

660 Watts, 600 Volts

With 3/8-inch Cap—Threaded Connection

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
25709	B	10	50	25	\$1.40



No. 25710 G-E Heavy Duty Keyless Sockets
Brass Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 3/8-inch Cap—Threaded Connection
Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
25710	B	10	50	30	\$1.40



No. 32441 G-E Heavy Duty Keyless Sockets
Aluminum Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 3/8-inch Cap—Bayonet Connection

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
32441	B	10	50	25	\$1.00



No. 32443 G-E Heavy Duty Keyless Sockets
Brass Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 3/8-inch Cap—Bayonet Connection

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
32443	B	10	50	30	\$1.00



No. 50701 G-E Heavy Duty Keyless Sockets
Aluminum Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 1/2-inch Cap—Threaded Connection

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
50701	B	10	50	25	\$1.40



No. 50702 G-E Heavy Duty Keyless Sockets

Brass Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 1/2-inch Cap—Threaded Connection
Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
50702	B	10	50	30	\$1.40



No. 32440 G-E Heavy Duty Keyless Sockets
Aluminum Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 1/2-inch Cap—Bayonet Connection

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
32440	B	10	50	25	\$1.00



No. 32442 G-E Heavy Duty Keyless Sockets

Brass Shell with Porcelain Lining

With Lamp Grip

660 Watts, 600 Volts

With 1/2-inch Cap—Bayonet Connection
Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
32442	B	10	50	30	\$1.00





No. GE784 Fluted-catch Small Exposed Socket Bases



Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE784	B	10	250	55	\$.36

No. GE974 Fluted-catch Small Exposed Slotted Socket Bases



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE974	B	10	250	55	\$.35

No. GE786 Fluted-catch Small Concealed Socket Bases



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE786	B	10	250	60	\$.56

No. GE794 Fluted-catch 3 1/4-inch Box Insulated Socket Bases

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE794	B	5	100	65	\$.74



No. GE795 Fluted-catch 4-inch Box Insulated Socket Bases



Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE795	B	5	100	115	\$ 1.34

No. GE1800 Deep All-metal Bases for All Outlets

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1800	B	1	100	60	\$ 1.34



No. GE771 Fluted-catch Pull Socket Bodies

250 Watts, 250 Volts



Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE771	B	25	250	55	\$.96

No. GE773 Fluted-catch Pull Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE773	B	25	250	60	\$ 1.18



No. GE769 Fluted-catch Key Socket Bodies

250 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE769	B	25	500	100	\$.52



No. GE772 Fluted-catch Key Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE772	B	25	500	110	\$.58

No. GE770 Fluted-catch Keyless Socket Bodies

660 Watts, 250 Volts

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE770	B	25	500	90	\$.46



No. GE1801 Sherardized Adapters

Supports No. GE1800 Receptacles when used on a 3 1/4-inch shallow plate fixture stud.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1801	B	25	50	10	\$.12

No. GE1802 Sherardized Adapters

Supports No. GE1800 Receptacles when used in deep outlet boxes with 3/8-inch fixture stud.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1802	B	25	50	12	\$.14



No. GE1803 Sherardized Adapters

Supports No. GE1800 Receptacles when used in shallow outlet boxes with 3/8-inch fixture stud.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1803	B	25	50	12	\$.14

No. GE1804 Sherardized Adapters

Supports No. G-E 1800 Receptacles on 3 1/4-inch and 4-inch outlet box covers.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1804	B	25	50	14	\$.12





No. GE264 Metal Shell Keyless Socket Receptacles

660 Watts, 250 Volts

Insulated for 3 1/4 and 4-inch Outlet Boxes

Standard finish, brush brass.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE264	B	1	100	110	\$1.20



No. GE721 Metal Shell Pull Socket Receptacles

250 Watts, 250 Volts
For 3 1/4 and 4-inch Boxes

With short chain; 6 feet of cord.
Standard finish, brush brass.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE721	B	1	50	75	\$2.60



No. GE550 Special Keyless Switchboard Socket Receptacles

660 Watts, 250 Volts

Studs for Back Connections

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE550	B	10	100	20	\$.60



No. 60018 G-E Metal Shell Key Socket Receptacles

250 Watts, 250 Volts

Small Concealed Base, One-piece Metal Shell

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60018	B	10	250	95	\$.88



No. 60019 G-E Metal Shell Keyless Socket Receptacles

660 Watts, 250 Volts

Small Concealed Base, One-piece Metal Shell

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60019	B	10	250	90	\$.82



No. 50717 G-E Metal Shell Keyless Socket Receptacles for Car Wiring

660 Watts, 600 Volts

Small concealed base.

Standard finish, brush brass.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
50717	B	10	250	70	\$.50



No. GE009 Metal Shell Keyless Socket Receptacles for Car Wiring

660 Watts, 600 Volts

Small concealed covered base compound lining, one-piece metal shell.
Standard finish, brush brass.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE009	B	10	50	20	\$1.00



No. 66320 G-E Metal Shell Keyless Socket Receptacles for Car Wiring

660 Watts, 600 Volts

Large concealed covered base, one-piece metal shell.

Standard finish, brush brass.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
66320	B	5	100	60	\$1.20



No. GE433 Metal Shell Locking Keyless Socket Receptacles for Car Wiring

660 Watts, 250 Volts

Small concealed covered insulated base, with lamp grip.

Standard finish, brush brass.

Locking key is not included.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE433	B	10	100	85	\$1.42



No. 153755 G-E Metal Shell Combined Keyless Socket Receptacles and Shadeholders for Car Wiring

660 Watts, 600 Volts

Accommodates Holophane Reflector No. 954 and Ivanhoe-Regent No. 3044.

Standard finish, brush brass.

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
153755	B	1	10	30	\$8.00



No. 158027 G-E Condulet Adapters for No. 153755 Socket Receptacles

Standard finish, brush brass.



Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
158027	B	1	10	5	\$.40

No. GE1226 Snap-catch Porcelain Socket Receptacle Concealed Bases



Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1226	B	10	100	40	\$.30

No. GE1230 Snap-catch Porcelain Socket Receptacle Cleat Bases

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1230	B	10	100	30	\$.28



No. GE1227 Snap-catch Porcelain Socket Receptacle Moulding or Taplet Bases



Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1227	B	10	100	30	\$.30

No. GE1229 Snap-catch Porcelain Socket Receptacle 3 1/4-inch Box Bases

Cat. No.	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1229	B	10	100	100	\$.60





No. GE1228 Snap-catch Porcelain Socket Receptacle 4-inch Box Bases



Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1228	B	5	100	105	\$.80

No. GE1218 Snap-catch Porcelain Pull Socket Bodies

250 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1218	B	10	100	50	\$1.50



No. GE1842 Snap-catch Porcelain Pull Socket Bodies

660 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1842	B	10	100	55	\$1.62



No. GE1210 Snap-catch Porcelain Key Socket Bodies

250 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1210	B	10	250	80	\$.52



No. GE2237 Snap-catch Porcelain Key Socket Bodies

660 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2237	B	10	250	85	\$.58



No. GE1214 Snap-catch Porcelain Keyless Socket Bodies

660 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1214	B	10	250	65	\$.46



No. GE1222 Snap-catch Porcelain Push Button Socket Bodies

660 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1222	B	10	100	45	\$.58



G-E Porcelain Receptacle Parts Interchangeable Two-screw Fastenings

Schedule B

All porcelain socket receptacle bases with two-screw fastening are interchangeable with all porcelain socket bodies with two-screw fastening permitting the combination of any base with two-screw fastening with any body with two-screw fastening. Bases and bodies are packed and shipped separately under their respective Cat. Nos., thus providing for a flexible stock, easily and economically maintained.

No. GE802 Porcelain Socket Receptacle Concealed Bases

With Two-screw Fastening



Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE802	B	10	100	40	\$.30

No. GE803 Porcelain Socket Receptacle Cleat Bases

With Two-screw Fastening

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE803	B	10	100	30	\$.28



G-E Porcelain Socket Receptacle Bases

3 1/4-inch Box Bases

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE806	B	10	100	95	\$.60



4-inch Box Bases

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE807	B	5	100	100	\$.80

No. 806

No. GE799 Porcelain Key Socket Bodies

With Two-screw Fastening



250 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE799	B	10	250	80	\$.52

No. GE800 Porcelain Keyless Socket Bodies

With Two-screw Fastening

660 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE800	B	10	250	65	\$.46



No. GE2284 Porcelain Pull Socket Bodies

With Two-screw Fastening

250 Watts, 250 Volts



Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2284	B	10	100	....	\$1.50

No. GE2283 Porcelain Push Button Socket Bodies

With Two-screw Fastening

660 Watts, 250 Volts

Cat. No.	Sched. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2283	B	10	100	....	\$ .58





No. GE033 Porcelain Keyless Socket Receptacles for Cleat Work

660 Watts, 250 Volts

With shadholder groove.
Heavy porcelain shell.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE033	B	10	250	100	\$.44

No. GE031 Porcelain Keyless Socket Receptacles for Cleat Work

660 Watts, 250 Volts

With shadholder groove.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE031	B	5	250	160	\$.66



No. 9403 G-E Porcelain Keyless Socket Receptacles for Cleat Work

660 Watts, 250 Volts

With brass shell.
Threaded for shadholder.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
9403	B	10	250	100	\$.54

No. GE020 Porcelain Keyless Socket Receptacles for Molding Work

660 Watts, 250 Volts

Without shadholder groove.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE020	B	10	250	80	\$.60



No. GE021 Porcelain Keyless Socket Receptacles for Molding Work

660 Watts, 250 Volts

With shadholder groove.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE021	B	10	250	80	\$.70

No. 66722 G-E Porcelain Multiple Keyless Socket Receptacles for Cleat, Concealed or Molding Work

660 Watts, 250 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
66722	B	10	100	110	\$.80



No. 49354 G-E Porcelain Keyless Conduit Box Socket Receptacles

660 Watts, 250 Volts

For attaching to bottom of box.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
49354	B	10	250	90	\$.42

No. 9514 G-E Porcelain Keyless Socket Receptacles for Concealed Work

660 Watts, 250 Volts

For flush mounting.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
9514	B	10	250	90	\$.60

No. GE294 Porcelain Keyless Socket Receptacles for Concealed Work

660 Watts, 250 Volts

Without shadholder groove.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE294	B	10	250	100	\$.50



No. GE295 Porcelain Keyless Socket Receptacles for Concealed Work

660 Watts, 250 Volts

With shadholder groove.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE295	B	10	250	100	\$.60

No. GE293 Porcelain Keyless Socket Receptacles for Concealed Work

660 Watts, 250 Volts

With brass shell threaded for shadholder.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE293	B	10	250	90	\$.70



No. 9171 G-E Porcelain Keyless Socket Receptacles for Cleat Work

660 Watts, 250 Volts

Without shadholder groove.
Center supporting screw hole.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
9171	B	10	500	135	\$.24

No. 50715 G-E Porcelain Keyless Socket Receptacles for Cleat Work

660 Watts, 250 Volts

Without shadholder groove.
Outside supporting screw holes.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
50715	B	10	250	85	\$.24



No. 9402 G-E Porcelain Keyless Socket Receptacles for Cleat Work

660 Watts, 250 Volts

Without shadholder groove.
Outside supporting screw holes.
Heavy porcelain shell.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
9402	B	10	250	100	\$.34



No. 60931 G-E Porcelain Keyless Conduit Box Socket Receptacles

660 Watts, 250 Volts

For attaching to cover of box.



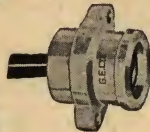
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60931	B	10	250	55	\$.36

No. GE071 Porcelain Keyless Conduit Box Socket Receptacles

660 Watts, 250 Volts

With wire leads.

For attaching to cover of box.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE071	B	10	100	50	\$.60

No. GE155 Porcelain Keyless Conduit Box Socket Receptacles

660 Watts, 250 Volts

With shadeholder groove.
For 3 1/4-inch box.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE155	B	5	100	100	\$.80

No. GE088 Porcelain Keyless Conduit Box Socket Receptacles

660 Watts, 250 Volts

With shadeholder groove.
For 4-inch box.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE088	B	5	100	110	\$1.00

No. GE968 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

Wire grooves parallel, with supporting screw.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE968	B	10	250	90	\$.34

No. GE172 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

Extra heavy supporting lugs.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE172	B	10	250	75	\$.34

No. GE170 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

For wooden signs.

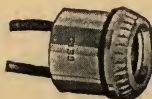


Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE170	B	10	250	90	\$.34

No. GE079 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

With removable ring. Takes a 1 1/2-inch hole in sign front. With 6-inch wire leads.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE079	B	10	250	80	\$.56

No. GE001 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

With removable ring. Takes a 1 1/2-inch hole in sign front. Slotted base.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE001	B	10	250	80	\$.40

No. GE269 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

With removable ring. Takes a 1 1/2-inch hole in sign front. With clamping terminals. Slotted base.

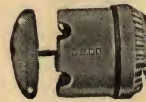


Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE269	B	10	250	80	\$.40

No. GE271 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

With removable ring. Takes a 1 1/2-inch hole in sign front. With protecting cap.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE271	B	10	250	90	\$.50

No. GE267 Porcelain Keyless Sign Socket Receptacles

660 Watts, 250 Volts

With removable ring. Takes a 1 1/2-inch hole in sign front. With clamping terminals and protecting cap.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE267	B	10	250	90	\$.50

No. GE675 Porcelain Keyless Candelabra Socket Receptacles

75 Watts, 125 Volts

For cleat work.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE675	G. Class 1	25	100	15	\$.24

No. GE676 Porcelain Keyless Miniature Socket Receptacles

75 Watts, 125 Volts

For cleat work.

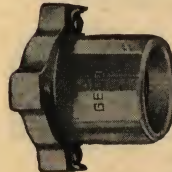


Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE676	G. Class 1	25	100	15	\$.24

No. GE1194 Porcelain Keyless Mogul Socket Receptacles

1500 Watts, 600 Volts

For cleat work.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1194	B	10	50	55	\$1.50

No. 159380 G-E Porcelain Keyless Mogul Socket Receptacles

1500 Watts, 600 Volts

For conduit box and sign work. Takes 2 3/8-inch hole in sign front.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
159380	B	1	100	105	\$1.70



No. GE860 Detachable Luminous Radieye Pendants



G-E Radieye Pendants for pull socket devices contain genuine radium which assures an effective life over a period of several years. They do not depend upon exposure to sunlight for continuous effective light. They give a clear easily discernible glow in the dark and can be readily located from a considerable distance.

25 of these pendants are mounted on a sales-producing counter-display card and packed four cards to a standard package.

Cat. No.	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE860	G (Class 1)	25-(1 Card)	100		\$.50

G-E Pull Sockets with Removable Ball

Schedule B

Pull sockets with removable ball can be furnished on special orders at same list price as standard. Orders must specify "with removable ball."



Standard package, 250. Carton, 50.

No assortment permitted.

Price, Separate Removable Balls.....each \$.12



G-E Pull Sockets with Special Length Chains

Schedule B

Standard length of chains for pull sockets and pull socket receptacles is 8 inches. Sockets with chains shorter than standard length, take same list price as standard.

For Extra Length Chains Attached To Pull Sockets,

Add to List Price per Foot or Fraction Thereof.....\$.20

Standard package and carton quantities same as for corresponding standard sockets. No assortment permitted.

G-E Pull Sockets with Insulated Chains

Schedule B



Insulation is accomplished by inserting a fibre rod within the chain.

Standard package and carton same as for corresponding standard pull sockets. No assortment permitted.

Additional Price, for Pull Sockets with Insulated Chainseach \$.16

G-E Sockets with Extension Chain Guides

Schedule B

Lengths: $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$ and 2 inches.

Standard package, 50 of one length or 100 of assorted lengths in carton quantities. Carton quantity same as for corresponding standard pull sockets. Pull sockets with extension eyelets cannot be assorted with standard pull sockets to make up standard package quantity.

Additional Price, for Pull Sockets with Extension Chain Guides Assembled on Sockets.....each \$.20



G-E Sockets with Extra Long Keys

Schedule B



Lengths: $1\frac{1}{4}$, $1\frac{1}{2}$, 2 and $2\frac{1}{2}$ inches. The standard length of keys for sockets is $\frac{7}{8}$ inch. When so specified, sockets with 1-inch keys can be furnished at same list price and in same standard package quantities.

On orders for sockets with extra long keys, where length is not specified $1\frac{1}{2}$ -inch keys will be furnished.

Standard package, 100 of one length and one catalogue number. Carton quantity same as for corresponding standard key sockets. No assortment permitted.

Additional Price, for Sockets with Extra Long Keys.....each \$.10

G-E Sockets with Metal Keys

Schedule B

Standard length of metal key, 1 inch. Standard package, 100 of one length and one catalogue number. Carton quantity same as for corresponding standard key sockets. No assortment permitted.

Additional Price, for Sockets with Metal Keyseach \$.20



G-E Socket Devices with Lamp Grip

Schedule B

Lamp grips which prevent lamps from unscrewing as a result of vibration can be furnished on any medium base or mogul base socket device listed in this catalogue. They are regularly furnished on G-E locking sockets.

Standard package and carton quantities same as for corresponding standard sockets.

Additional Price, for other Socket Devices with Lamp Grips.....each \$.10

G-E Socket Devices for Type C Lamps

Schedule B

A special heat-proof compound is regularly used for the pitching of current bearing screws in all mogul base socket devices.

For medium base socket devices pitched with heat-proof compound add to list price of corresponding device, 6 cents.

Standard package quantities and carton quantities will be the same as standard sockets. No assortment permitted.

No. 71737 G-E $\frac{2}{4}$ -inch Shadeholders for Heavy Duty Medium Base Sockets

Standard finish is bright dip. For brush brass finish add 6 cents each to list.



Cat. No.	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
71737	B	50	100	15	\$28.00

G-E Heavy Duty Medium Base Sockets With $\frac{2}{4}$ -inch Shadeholders Permanently Attached

Schedule B



Porcelain lining. Can be furnished with $\frac{2}{4}$ -inch permanently attached shadeholders. Add to list price of corresponding device, 40 cents.

Furnished with a $3\frac{1}{4}$ -inch shadeholder, add to list price of corresponding device, 80 cents.

Standard package and carton quantities same as for corresponding sockets.

G-E Parts for Metal Shell Sockets

Schedule B

Candelabra and Miniature Base Key

PRICE, EACH					
Interior Fittings	Outer Shells Without Linings	Shell Linings	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.
\$.56	\$.20	\$.06	50	250	....
\$.34	†\$.20	\$.06	50	250	....
Keyless					
\$.40	†\$.20	\$.06	50	250	....
Medium Base—Standard or Electrolier					
\$.84	†\$.20	\$.06	50	250	....
\$.50	†\$.20	\$.06	50	250	....
\$.76	†\$.38	\$.06	50	250	....
\$ 1.30	†\$.38	\$.06	50	250	....
\$.96	†\$.38	\$.06	50	250	....
\$.46	†\$.20	\$.06	50	250	....
\$.34	†\$.20	\$.06	50	250	....
\$ 1.06	†\$.20	\$.06	50	250	....
\$.72	†\$.20	\$.06	50	250	....
\$.40	†\$.20	\$.06	50	250	....
\$.70	†\$.20	\$.06	50	250	....
\$.70	†\$.21	....	50	50	....
\$.50	†\$.45	....	10	250	....
1500-watt Mogul Base					
\$ 1.15	†\$.35	....	10	50	....

†For threaded-catch shells complete with ring, add 4 cents each list to these prices.



G-E Parts for Metal Shell Sockets

Schedule B

Caps without Linings

Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
* $\frac{1}{8}$ -inch.....	50	250		\$.13
* $\frac{1}{4}$ ".....	50	250		.31
* $\frac{3}{8}$ ".....	50	250		.25
* $\frac{1}{2}$ ".....	50	250		.37
* $\frac{3}{4}$ ".....	50	250		.31
*Pendent with either Compound or Porcelain Bushing.....	50	250		.13
$\frac{1}{8}$ -inch—Angle, 90 Degrees.....	50	250		.41
$\frac{1}{4}$ " — " 90 ".....	50	250		.49
$\frac{3}{8}$ " — " 90 ".....	50	250		.47
600-volt, Bayonet Connection.....	10	50		.30
600 " Threaded.....	10	50		.46

Cap Linings

Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
All Cap Linings with the Exception of 600-volt.....	50	250		\$.01
Cap Linings 600-volt.....	10	50		.06
Porcelain Bushings for Pendent Caps.....	50	250		.08
Composition Bushings for Pendent Caps.....	50	250		.06

†For threaded-catch shells complete with ring add 4 cents each list to these prices.

Separate threaded rings 4 cents each list. Standard package, 250. Carton, 50.

*For threaded-catch caps deduct 4 cents from list prices shown above.

Metal Keys

Description	Carton	Std. Pkg.	Wt., Lbs.	List Price
1-inch Keys.....	20	100		\$.10

Standard Chain Guides

For All Pull Devices.....	50	250		\$.10
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Extension Guides

$\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, and 2 Inches.....	10	*50		\$.30
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8-inch Pull Chains

With Ball.....	50	250		\$.26
" Insulating Link and Ball.....	50	250		.42

Short Chain with Linen Cord and Ball

With 36-foot Small Size Linen Cord.....	50	250		\$.32
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Small Compound Cord Balls

For Brass Shell Pull Switch Devices.....	50	250		\$.10
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Chain

For Medium Base Pull Devices.....per foot	200 Ft.	1000 Ft.		\$.10
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Small Size Black Linen Cord

For Brass Shell Pull Devices.....per foot	200 Ft.	1000 Ft.		\$.02
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Screw Shells

Mogul.....	10	50		\$.24
Medium.....	50	250		.07
Candelabra and Miniature.....	50	250		.04

Detachable Pendent Brass Balls

For Brass Shell Pull Devices.....	50	250		\$.12
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Insulating Links

Fibre Links.....	50	250		\$.16
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*100 extension chain guides of assorted lengths also constitute a standard package quantity.

Sockets Unassembled

When it is intended to put on a special finish to match finish on individual fixtures it is sometimes convenient to have sockets unassembled. When so ordered the socket interiors slipped into the shell linings and the cap linings will be packed in one set of cartons, and the shells and caps in another set of cartons.

The terms "unassembled" and "knocked-down" must not be confused.

The former has reference to sockets unassembled mentioned above. The latter means that the socket is separated into two parts: the body, consisting of shell, shell lining and interior complete; the cap, consisting of cap and cap lining complete.

Unassembled sockets are usually desired unlacquered.

Unassembled sockets will be furnished without extra charge.

Standard package and carton same as for corresponding standard sockets. No assortment is permitted.

G-E Ventilated Type Uno Shade Holders

Brushed brass, standard finish.



No. 501

Cat. No.	Size In.	Equipped With	Std. Pkg.	Sched. ule	Carton	PRICE, PER 100 Fin-ished	Unfin-ished
501	2 $\frac{1}{4}$	Screws	500 B	50	50	\$12.00	\$11.00
505	3 $\frac{1}{4}$	"	250 B	25	25	29.70	26.10
511	4	"	100 B	10	10	41.10	36.70

G-E Ventilated Type Uno Shade Holders

Brushed brass, standard finish.



No. 502

Cat. No.	Size In.	Equipped With	Std. Pkg.	Sched. ule	Carton	PRICE, PER 100 Fin-ished	Unfin-ished
502	2 $\frac{1}{4}$	Spring	250 B	50	50	\$18.50	\$17.50
506	3 $\frac{1}{4}$	"	100 B	25	25	38.00	35.00

G-E Solid Type Uno Shade Holders

Brushed brass, standard finish.



No. 532

Cat. No.	Size In.	Equipped With	Std. Pkg.	Sched. ule	Carton	PRICE, PER 100 Fin-ished	Unfin-ished
532	2 $\frac{1}{4}$	Screws	500 B	50	50	\$17.00	\$15.50
534	3 $\frac{1}{4}$	"	250 B	25	25	31.80	28.40
536	4	"	100 B	10	10	46.90	43.30

G-E Solid Type Uno Shade Holders

Brushed brass, standard finish.



No. 533

Cat. No.	Size In.	Equipped With	Std. Pkg.	Sched. ule	Carton	PRICE, PER 100 Fin-ished	Unfin-ished
533	2 $\frac{1}{4}$	Spring	250 B	50	50	\$18.10	\$16.00
535	3 $\frac{1}{4}$	"	100 B	25	25	38.70	35.70

P & S Shade Holders

For porcelain sockets and receptacles. The standard finish is brush brass.



Cat. No.....	119	1190
Size of Holder, inches.....	2 $\frac{1}{4}$	3 $\frac{1}{4}$
Price.....per 100	\$8.50	16.25

Universal Shade Holders

For Brass Shell Sockets
Brush brass, standard finish.

Cat. No.	Size of Holder Inches	Price per 100
1264	2 $\frac{1}{4}$	\$8.75
1265	3 $\frac{1}{4}$	16.25
1725	4	21.25



Hubbell Attachments

For Pull Sockets

Schedule F

For Brass Shell Sockets

No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
5828	For 8, 10 and 12-in. Reflectors	25	100	8	\$.25
5829	" 14-in. Reflector.....	25	100	9	.25
5953	" 16 " ".....	25	100	24	.30
5954	" 18 and 20-in. Reflectors	25	100	24	.30
6317	" 22-in. Reflector.....	25	100	25	.40

For Porcelain Pull Sockets

No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
5957	For 8, 10 and 12-in. Reflectors.....	25	100	8	\$.25
5958	For 14-in. Reflector.....	25	100	9	.25
5959	" 16 " ".....	25	100	24	.30
5960	" 18 and 20-in. Reflectors	25	100	24	.30
5961	" 22-in. Reflector.....	25	100	25	.40



G-E Special Finishes

Brass Shell Sockets, Socket Receptacles

Pendent Switches and Shadeholders, Flush Plates and Accessories

List Prices to be Added to List Price of Corresponding Devices

Finish No.	Finish	COMPLETE WITH CAPS		—BODIES— ONLY		Caps Only	Bases Only Including Socket Receptacles with One Piece Metal Covers	Shade Holders	600 Volt Medium Screw Base Sockets and Brass Shell Mould Sockets	ALL PORCELAIN SOCKETS WITH EXPOSED BRASS PARTS COMPLETE WITH CAPS		Covers for Ceiling Pull, Surface Pull, Rotary and Tumbler Switches	METAL COVERED ATTACHING PLUG CAPS, ELXIT PLUG COVERS AND HOOK		Flush Plates Including Elxit Single Flush Plates
		Key, Key-less and Push	Pull	Key, Key-less and Push	Pull					Key, Key-less and Push	Pull		10 Amp. Caps Elxit Plug Hooks	10 Amp. Caps Elxit Plug Covers	
130	Antique Brass	\$.20	\$.24	\$.10	\$.14	\$.10	\$.32	\$.10	\$.40	\$.10	\$.12	\$.20	\$.16	\$.30	\$.30
284	Flemish "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
285	Lemon "	.12	.14	.06	.08	.06	.24	.06	.24	.06	.07	.20	.08	.16	.20
129	Old or Brushed Brass	*	*	*	*	*	*	*	*	*	*	.20	*	*	*
162	Oxidized Brass	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
127	Polished "	.12	.14	.06	.08	.06	.24	.06	.24	.06	.07	.20	.08	.16	.20
286	Sand Blast Antique Brass	.44	.52	.22	.30	.22	.60	.22	.88	.22	.26	.20	.24	.50	.60
287	" " Brush "	.36	.44	.18	.26	.18	.56	.18	.72	.18	.22	.20	.16	.32	.50
290	Brush Bronze	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
164	English "	.32	.40	.16	.24	.16	.50	.16	.64	.16	.20	.20	.20	.38	.40
167	Gold "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
288	Japanese Bronze (Dark)	.32	.40	.16	.24	.16	.50	.16	.64	.16	.20	.20	.20	.38	.40
160	Old English "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
170	Polished "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
289	Statuary " (Light)	.32	.40	.16	.24	.16	.50	.16	.64	.16	.20	.20	.20	.38	.40
169	Antique or Acid Copper	.32	.40	.16	.24	.16	.50	.16	.64	.16	.20	.20	.20	.38	.40
177	Black Oxidized	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
291	Brush Copper	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
114	Mottled "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
168	Oxidized "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
171	Polished "	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
211	White Enamel	.32	.40	.16	.24	.16	.50	.16	.64	.16	.20	.20	.20	.38	.40
166	Etruscan Gilt	.12	.14	.06	.08	.06	.24	.06	.24	.06	.07	.20	.08	.16	.20
163	Polished or Rich Gilt	.12	.14	.06	.08	.06	.24	.06	.24	.06	.07	.20	.08	.16	.20
292	Gun Metal	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
280	Dull Nickel	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
173	Polished Nickel	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	*	.16	.30	.30
175	Ground or Butler's Silver	.40	.60	.20	.40	.20	.50	.20	.80	.20	.30	†	.28	.54	.90
174	Oxidized Silver	.40	.60	.20	.40	.20	.50	.20	.80	.20	.30	†	.28	.54	.90
124	Polished "	.40	.60	.20	.40	.20	.50	.20	.80	.20	.30	†	.28	.54	.90
293	Satin "	.40	.60	.20	.40	.20	.50	.20	.80	.20	.30	†	.28	.54	.90
172	Polished Steel	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30
178	Verde Antique	.44	.52	.22	.30	.22	.60	.22	.88	.22	.26	.20	.24	.50	.60
101	Wrought Iron or Bauer Barff	.20	.24	.10	.14	.10	.32	.10	.40	.10	.12	.20	.16	.30	.30

*Standard finish which will be furnished on all orders where no finish is specified.

†Prices on application.

On quantity orders the list prices for special finishes listed above will be reduced as follows:

250 to	500 Pieces,	One	Cat. No.	One	Finish . . .	10	per cent
500 "	1000 "	"	"	"	"	20	" "
1000 Pieces and Over		"	"	"	"	30	" "

On quantity orders for flush plates in gangs the list prices for special finishes listed above will be reduced as follows:

100 to 500 Gangs, One Finish	10 per cent
500 " 1000 " " "	20 "
1000 Gangs or Over " "	30 "

Unfinished flush plates, polished and buffed will be furnished at same list price as brush brass plates.

Unfinished flush plates, neither polished nor buffed, will be furnished at same list price as lacquer finish plates.

Devices, except shadeholders polished but not lacquered or unfinished will be supplied at same list price as devices in standard finish.

Prices on all special finishes, other than those listed above, will be quoted on application. Sample of desired finish should accompany order.

Special finish on extra chain or separate chains, 10 cents list per foot, or fraction thereof. Special finish on china balls, 8 cents each list.

Special finish on chain guides, 8 cents each list.

**No. 39235 G-E Ceiling Rosettes***Schedule G Class 1*

Cat. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
39235	For Cleat Work, Fuseless, 250 Volts.....	10	250	120	\$.32

No. 39237 G-E Ceiling Rosettes*Schedule G Class 1*

Cat. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
39237	For Concealed Work, Fuseless, 250 Volts.....	10	250	135	\$.32

**No. 39239 G-E Ceiling Rosettes***Schedule G Class 1*

Cat. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
39239	For Moulding Work, Fuseless, 250 Volts.....	10	250	130	\$.32

No. 43111 G-E Ceiling Rosettes*Schedule G Class 1***250 Volts**

One-piece, fuseless, for cleat or concealed work.



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
43111	10	500	135	\$.20

No. GE1686 Brass Covered Ceiling Rosettes*Schedule G Class 1***660 Watts, 250 Volts**

For 3 1/4-inch and 4-inch outlet boxes.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1686	1	50	75	\$1.60

**Bushings****No. 50787****No. 9165**

Cat. No.	Description	Size Hole Inches	Size, Cap Inches	Std. Pkg.	Price per 1000
50787	Composition	3/32	3/8	500	\$10.00
9165	"	3/32	1/8	1000	7.50

No. 1388 Socket Handles

A strong heavy handle, heavily threaded brass nipples for socket securely imbedded in end.

Size of hole, 1 1/2 inch for No. 16 approved portable cord. Size of nipples, 3/8 inch.



No.	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
1388	H	25	100	17	\$.14

No. 23 Dim-A-Lite Attachments

For dimming or turning down a single incandescent lamp.

Can be used with either carbon or Mazda lamps up to 50 watts. Suitable for any current, either direct or alternating. Operated by a simple pull of chain which gives five changes of light, full, low, dim, nitelite and out.

Portable, interchangeable type. Brush brass finish. Fits any fixture or chandelier socket and takes any ordinary lamp.

Approved by Underwriters. Standard package, 48.

Price, No. 23.....each **\$1.25**

110 volts furnished unless otherwise ordered. Add 10 cents for 220 volts. Add 10 cents for 32 volts.

For special finishes, add 25 cents.

No. 24 Dim-A-Lite Attachments

For dimming incandescent lamps. Portable shade holder type, brush brass finished. Operated either by turning shade or pulling cord.

Slight turn of shade gives any degree of light desired. Equipped with 2 1/4-inch shade holder. Preferred when the light is within easy reach.

A simple pull of cord gives five changes of light, full, low, dim, nitelite and out.

Can be used with either carbon or Mazda lamps up to 50 watts. Suitable for any current, either direct or alternating. Approved by Underwriters. Standard package, 60.

Price, No. 24.....each **\$1.25**

110 volts furnished unless otherwise ordered. Add 10 cents for 220 volts. Add 10 cents for 32 volts.

For special finishes, add 25 cents.

**No. 34 Dim-A-Lite Attachments**

For dimming incandescent lamps. Portable shade holder type, brush brass finish. Perforated shade holder takes standard size shade.

Slight turn of shade gives any degree of light desired or a simple pull of cord gives five changes of light, full, low, dim, nitelite and out.

Can be used with either carbon or Mazda lamps up to 50 watts. Suitable for any current, either direct or alternating. Approved by Underwriters. Standard package, 60.

Price, No. 34.....each **\$1.40**

110 volts furnished unless otherwise ordered. Add 10 cents for 220 volts. Add 10 cents for 32 volts.

For special finishes, add 25 cents.

**No. 33 Dim-a-lite Pull-Chain Sockets**

Dim-a-lite pull-chain socket is permanently wired to any electric light fixture or lamp, just the same as an ordinary pull-chain socket. It replaces and improves upon standard pull-chain sockets.

Giving maximum comfort and convenience at minimum cost, Dim-a-lite socket gives five changes of light and saves 30% to 80% current at the meter.

For dimming or turning down a single incandescent lamp. Can be used with either carbon or Mazda lamps up to 50 watts. Suitable for any current, either direct or alternating. Standard package, 100.

Price, No. 33.....each **\$1.00**

110 volts furnished unless otherwise ordered. Add 10 cents for 220 volts. Add 10 cents for 32 volts.

For special finishes, add 25 cents





No. 200 Hemco Twin-Lite Plugs

660 Watts, 250 Volts

The Hemco Twin-Lite Plug will fit any socket or baseboard receptacle.

In service, the plug is practically indestructible, being molded in one piece of condensite.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
200	10	100	25	\$.75



No. 202 Hemco Tach-Lite Plugs

660 Watts, 250 Volts

Threaded outlets permit the use of Uno or standard shade holders. Clamp type shade holders fastened directly above threaded end. Shade permits lamp to hang straight down.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
202	10	100	25	\$.75



No. 203 Hemco Trip-Lite Plugs

660 Watts, 250 Volts

Same design as Tach-Lite with an additional outlet, permitting the servicing of two appliances and one light. Molded in one piece of condensite.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
203	10	50	15	\$1.10



No. 205 Hemco Tee-Lite Plugs

660 Watts, 250 Volts

To fit all standard prong type receptacles. Fits closely to baseboard, at the same time permitting the connection of all types of plugs.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
205	10	100	20	\$.75



No. GE1785 Standard Twin Socket Plugs

Bakelite Compound

660 Watts, 250 Volts

Schedule G Class 1

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1785	10	100	40	\$1.50



No. GE1835 Standard Triple-Taps

Moulded Compound
1 3/32-inch Cord Hole

660 Watts, 250 Volts

Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1835	1	10	60	\$4.00



The GE1835 Triple-Tap combines three outlets in a small tastefully designed highly polished black compound block with a connector, leader cord and G-E "Standard" separable attaching plug. The G-E Triple-Tap may be used on or attached under the dining room table and the lead attached to the nearest plug receptacle. It may thus simultaneously serve current for three useful table appliances without the usual maze of unsightly wires in evidence. The bedroom also presents many useful applications. Attached to the inside of the bedrail, it may be used as a source of current for the many useful appliances designed for Milady's comfort and convenience. Many uses in the kitchen and bathroom will also be found. A special angle-piece is regularly supplied for permanent attachment. On the bottom are four bosses of durable felt so it may be used on polished surfaces without fear of scratching. The "Standard" double T-Slots accommodate all Standard Caps as well as those with blades in alignment. Concealed contacts preclude the possibility of shocks.

G-E Standard Separable Attaching Plugs

Moulded Compound

660 Watts, 250 Volts

Schedule G Class 6

1 3/32-inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE624	25	250	45	\$.40



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1611	25	250	45	\$.40

No. GE2241 Midget Separable Attaching Plugs

Moulded Compound

660 Watts, 250 Volts

Schedule G Class 6

9/32x3/8-inch Oval Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2241	25	500	60	\$.30



No. GE708 Standard Attaching Plug Body

Moulded Compound

660 Watts, 250 Volts

Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE708	10	250	25	\$.20



No. GE1594 Standard Cap

Moulded Compound

10 Amp., 250 Volts

Schedule G Class 6

9/32-inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1594	10	250	23	\$.20



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE625	10	250	23	\$.20

No. GE1557 Standard Cap

Black Glazed Porcelain

10 Amp., 250 Volts

Schedule G Class 6

1 3/32-inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1557	10	250	28	\$.15



No. GE1677 Standard Brass Covered Cap

Moulded Compound

10 Amp., 250 Volts

Schedule G Class 6

9/32-inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1677	10	250	25	\$.50



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE662	10	250	25	\$.50

No. GE1582 Standard Steel Covered Cap

Moulded Compound

10 Amp., 250 Volts

Schedule G Class 6

1 3/32-inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1582	10	250	28	\$.32



No. GE1774 Standard Caps with Adjustable Metal Cord Grip

Moulded Compound

10 Amp., 250 Volts

Schedule G Class 6

9/16-inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1774	10	50	15	\$.40





No. GE658 Single Convenience Outlets

Shallow—One-piece—Moulded Compound.

Top Wired
10 Amp., 250 Volts
Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE658	10	100	50	\$.60

No. GE694 Twin Convenience Outlets

Shallow—One-piece—Moulded Compound

Top Wired
10 Amp., 250 Volts

Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE694	10	50	60	\$.96



No. GE694 Twin Convenience Outlets

Shallow—One-piece—Moulded Compound

Top Wired
10 Amp., 250 Volts

Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE694	10	50	60	\$.96



No. GE2258 Twin Convenience Outlets

Shallow—One-piece—Moulded Compound

10 Amp., 250 Volts
Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2258	10	100	19	\$.96



No. GE2257 Single Convenience Outlets

Shallow—One-piece—Moulded Compound

10 Amp., 250 Volts
Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2257	10	100	23	\$.60

No. GE2258 Twin Convenience Outlets

Shallow—One-piece—Moulded Compound

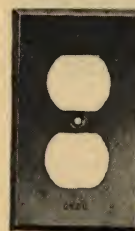
10 Amp., 250 Volts
Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2258	10	100	19	\$.96



Flush Plates for G-E Standard Twin Convenience Outlets

Struck-up Brass Plates—Horizontal Gangs
.040-inch Metal



No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Twin	*	*	12	GE695	\$.28	GE1592	\$.20
2 " "	*	*	11	GE1650	.56	GE1910	.40
3 " "	*	*	13	GE1909	.84	GE1919	.60

Gang plates up to and including 8 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 44 cents list and in Lacquer Finish at 36 cents list per gang.

.060-Inch Metal

No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Twin	*	*	14	GE1788	\$.36	GE1947	\$.28
2 " "	*	*	13	GE1790	.72	GE1948	.56
3 " "	*	*	15	GE1920	1.08	GE1949	.84

Gang plates up to and including 8 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 52 cents list per gang and in Lacquer Finish at 44 cents list per gang.

Solid Brass Plates—Horizontal Gangs

.100-inch Metal

1 Twin	*	*	20	GE1987	\$.68	GE1970	\$.60
2 " "	*	*	18	GE1988	1.36	GE1979	1.20
3 " "	*	*	22	GE1989	2.04	GE1980	1.08

Plates larger than 3 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 80 cents list per gang and in Lacquer Finish at 72 cents per gang.

Plates in tandem or vertical gangs can be furnished in Solid Brass and take 20 per cent advance over the list applying to horizontal gangs.

Solid Brass Plates with Doors

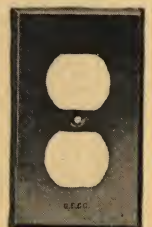
.100-inch Metal

Cat. No.	No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2256	1 Twin	*	*	10	\$1.60

Solid Bakelite Plates without Doors

Has a dull black finish and is practically indestructible. As it is stainless, it is particularly recommended for commercial and industrial purposes where it will return its original lustre despite hard and frequent usage. Single Bakelite plates only are made. They cannot be furnished in gangs.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1831	*	*	20	\$.68



*Std. Pkg. consists of 50 single plates or their equivalent in gangs; 10 gangs or $\frac{1}{2}$ -Std. Pkg. constitute a carton quantity.

No. GE2254 Single Convenience Outlets

Shallow—One-piece—Compound Top—Wired

10 Amp., 250 Volts

Schedule G, Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2254	10	50	50	\$.70

No. GE2255 Twin Convenience Outlets

Shallow—One-piece—Compound Top—Wired

10 Amp., 250 Volts

Schedule G, Class 6

Cat. No.	Car-ton	Std. Pkg.	Price Each
GE2255	10	50	\$1.06



Flush Plates for G-E Standard Twin Convenience Outlets

Solid Brass Plates with Doors
.100-inch Metal



Cat. No.	No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2256	1 Twin	*	*	10	\$1.60

*Std. Pkg. consists of 50 single plates or their equivalent in gangs; 10 gangs or $\frac{1}{2}$ -Std. Pkg. make a carton.

No. GE36817 Flush Plug Receptacles

Deep Porcelain Box

660 Watts, 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36817	10	100	50	\$.42



No. GE658 Single Convenience Outlets
Shallow—One-piece—Moulded Compound
Top Wired
10 Amp., 250 Volts
Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE658	10	100	50	\$.60

No. GE2254 Single Convenience Outlets
Shallow—One-piece—Compound Top—Wired
10 Amp., 250 Volts
Schedule G, Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2254	10	50	50	\$.70

No. GE2257 Single Convenience Outlets
Shallow—One-piece—Moulded Compound
10 Amp., 250 Volts
Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2257	10	100	23	\$.60

No. GE36817 Flush Plug Receptacles



Deep Porcelain Box
660 Watts, 250 Volts
Schedule G Class 1

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36817	10	100	50	\$.42

Flush Plates for G-E Standard Single Convenience Outlets
Schedule G Class 6

Struck Up Brass Plates—Horizontal Gangs
.040-inch Metal



No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Single	*	23		49491	\$.28	GE1591	\$.20
2 "	*	20		GE1649	.56	GE2205	.40
3 "	*	27		GE2204	.84	GE2206	.60

Gang plates up to and including 8 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 44 cents list per gang and in Lacquer Finish at 36 cents list per gang.

.060-inch Metal

No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Single	*	32		GE1787	\$.36	GE2208	\$.28
2 "	*	26		GE1789	.72	GE2209	.56
3 "	*	36		GE2207	1.08	GE2210	.84

Gang plates up to and including 8 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 52 cents list per gang and in Lacquer Finish at 44 cents list per gang.

Solid Brass Plates—Horizontal Gangs
.100-inch Metal

1 Single	*	39		GE1651	\$.68	GE2211	\$.60
2 "	*	34		GE1652	1.36	GE2212	1.20
3 "	*	37		GE1653	2.04	GE2213	1.80

Plates larger than 3 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 80 cents per gang and in Lacquer Finish at 72 cents per gang.

Plates in tandem or vertical gangs can be furnished in Solid Brass and take 20 per cent advance over the list applying to horizontal gangs.

Solid Bakelite Plates without Door

Has a high lustre black finish and is particularly indestructible. As it is stainless, it is particularly recommended for commercial and industrial purposes where it will retain its original lustre despite hard and frequent usage. Single Bakelite plate only is made. They cannot be furnished in gangs.

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1833	1 Single	*	*	23	\$.68



*Standard package consists of 100 single plates or their equivalent in gangs; 20 gangs or 1/2 of a standard package constitutes a carton quantity.

Flush Plates with Door for G-E Single Standard Convenience Outlets or Medium Screw Base Receptacles
Schedule G Class 6

Struck-up Brass Plates—Horizontal Gangs
.040-inch Metal



No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Single	*	24		GE2215	\$.38	GE1773	\$.30
2 "	*	21		GE2216	.76	GE2218	.60
3 "	*	28		GE2217	1.14	GE2219	.90

Gang plates up to and including 8 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 54 cents list per gang and in Lacquer Finish at 46 cents per gang.

.060-inch Metal

No. of Outlets	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Recept.	*	33		36818	\$.46	GE1590	\$.38
2 "	*	27		GE2220	.92	GE2222	.76
3 "	*	37		GE2221	1.38	GE2223	1.14

Gang plates up to and including 8 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 62 cents list per gang and in Lacquer Finish at 54 cents per gang.

Solid Brass Plates—Horizontal Gangs
.100-inch Metal

1 Recept.	*	41		GE2224	\$.78	GE2227	\$.70
2 "	*	36		GE2225	1.56	GE2228	1.40
3 "	*	39		GE2226	2.34	GE2229	2.10

Plates larger than 3 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at 90 cents and in Lacquer Finish at 82 cents list per gang.

Flush Plates with Door Hung Horizontally



Struck-up Brass Plates
.040-inch Metal

No. of Outlet	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Brush Brass		Lacquer	
				Cat. No.	Price Each	Cat. No.	Price Each
1 Recept.	*	24		GE2230	\$.38	GE2231	\$.30

1 Recept.	*	33		GE2232	\$.46	GE2233	\$.38
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1 Recept.	*	41		GE2234	\$.78	GE2235	\$.70
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*Standard package consists of 100 single plates or their equivalent in gangs; 20 gangs or 1/2 of a standard package will constitute a carton quantity.



No. GE1413 G-E Standard Pony Convenience Outlets



10 Amperes, 250 Volts

Schedule G—Class 6

One-piece. Shallow. Compound.

Will not fit standard boxes. Sprague Cover No. 54-C-64 for 4-inch boxes must be used.

Cat. No.	DIMENSIONS, INCHES			Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
	Length	Width	Depth				
GE1413	2	1 1/2	1 1/16	10	100	30	\$.60

Flush Plates for Pony Convenience Outlets

Struck-up Brass—.040-inch Metal



No. GE1414



No. GE1832

Standard finish, brush brass. Special finishes are shown on another page.

Flush plates for Pony Convenience Outlets cannot be furnished in combinations or gangs.

Cat. No.	Description	DIMENSIONS, IN.		Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
		Height	Width				
GE1414	Rectangular	3 1/2	2 5/8	10	100	20	\$.28
GE1832	Oval	3 1/2	2 3/8	10	100	20	.28

G-E Disappearing-door Flush Plug Receptacles

10 Amperes, 250 Volts
Schedule G—Class 1

No. GE2244

Single Flush Plug Receptacle Compound and Metal Box



No. GE2245

Twin Flush Plug Receptacles Compound and Metal Box

Cat. No.	Description	DIMENSIONS, IN.		Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
		Length	Width				
GE2244	Single Receptacle	2 1/16	1 1/2	10	30	15	\$1.00
GE2245	Twin	2 1/16	1 1/2	10	30	18	1.50

No. GE2248 End Outlet Caps for Disappearing-door Flush Plug Receptacles

Bakelite. Brass cover.

1 3/32-inch cord hole.



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE2248	10	30	5	\$1.20

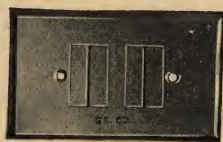
Flush Plates for Disappearing-door Flush Plug Receptacles

Struck-up Brass—.060-inch Metal



No. GE2246

With Disappearing Door for Single Receptacle



No. GE2247

With Twin Disappearing Doors for Twin Receptacle

Standard finish, brush brass. Special finishes are shown on another page.

Cat. No.	Description	DIMENSIONS, IN.		Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
		Height	Width				
GE2246	Single Receptacle	4 1/2	2 3/4	10	30	12	\$.90
GE2247	Twin	4 1/2	4 9/16	10	30	12	1.40

No. GE853 Pilot Lamp Receptacles

For 125 Volts



Schedule G Class 1

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE853	10	30	20	\$2.00

Flush Plates for G-E Pilot Lamp Receptacles

Schedule G Class 1

Struck-up Brass Plates—Horizontal Gangs
.040 Inch Metal

Brush Brass

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE2007	1 Recept.	*	*	10	\$1.60
GE2008	2 "	*	*	8	3.20
GE2009	3 "	*	*	11	4.80

Lacquer

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE2017	1 Recept.	*	*	10	\$1.52
GE2018	2 "	*	*	8	3.04
GE2019	3 "	*	*	11	4.56



No. GE2007

Gang plates up to and including 8 gangs can be furnished in Brush Brass at \$1.60 list per gang and in Lacquer Finish at \$1.52 list per gang.

.060 Inch Metal

Brush Brass

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE2020	1 Recept.	*	*	11	\$1.68
GE2027	2 "	*	*	9	3.36

Lacquer

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE2029	1 Recept.	*	*	11	\$1.60
GE2030	2 "	*	*	9	3.20

Solid Brass Plates—Horizontal Gangs
.100 Inch Metal

Brush Brass

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE854	1 Recept.	*	*	13	\$2.00
GE2038	2 "	*	*	10	4.00
GE2039	3 "	*	*	13	6.00

Lacquer

Cat. No.	Convenience Outlet	Car-ton	Std. Pkg.	Wt., Lbs.	Price Each
GE2070	1 Recept.	*	*	13	\$1.92
GE2080	2 "	*	*	10	3.84
GE2090	3 "	*	*	13	5.76

Plates larger than 3 gangs having standard dimensions and screw spacings can be furnished in Brush Brass at \$2.00 list per gang and in Lacquer Finish at \$1.92 list per gang.

*Standard package consists of 30 single plates or their equivalent in gangs.

*Five gangs or 1/5 of the standard package constitutes a carton quantity.

Standard finish, brush brass.



G-E Wiring Devices For Use on Hospital Signal Systems

Schedule S



No. GE1429
Audible Signal Switch
with No. GE658 Convenience
Outlet under a KF Plate

will be low due to the fact that all the material used is designed for continuous operation on lighting circuits.

With these switches a system may be installed at a comparatively low cost owing to the fact that the usual pendent push-button switch, 6 or 8 feet of flexible current-carrying conductor and the plug on the end of this conductor are all eliminated.

There are no current-carrying parts within reach of the patient, the call switch being operated by the heavy silk cord. This feature will appeal to architects, engineers and hospital superintendents.

These switches are designed to operate on 110 volts D.C. or D.C. systems without any reduction in voltage. The maintenance cost

No. GE1429

The signal switch is special, having auxiliary contacts for operating a single stroke bell or buzzer over the annunciator in the corridor duty room. A slight pull on the cord will light the signal lamps at the patient's bedside, over the patient's door, and on the annunciator. The same pull which the signal lamps operates a single bell or buzzer over the annunciator. If the call is not answered promptly, the audible signal may be repeated by pulling on the cord. The signal lamps remain lighted until the call is cancelled by the nurse at the bedside of the patient. This switch is used for audible call systems.



No. GE1429 Audible Signal
Switch with No. GE853
Pilot Lamp Receptacle
and No. GE694 Twin Convenience
Outlet under a KBD Plate



Two Cat. No. 36817 Receptacles under an F Plate

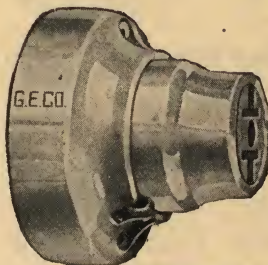
No. GE1428

The signal switch operates exactly the same as No. GE1429 and is similar except that it does not have the auxiliary contacts for operating a bell or buzzer. This switch is used for silent call systems. Both of these switches are of tumbler type and have 8 feet of heavy silk cord attached to the handle.

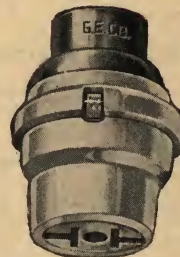
Cat. No.	Description	Price Each
GE1429	Flush Tumbler Audible Signal Switch (includes Metal Cover for Handle, Eyelet, Cord and Compound Ball).....	\$5.00
GE1428	Flush Tumbler Silent Signal Switch (includes Metal Cover for Handle, Eyelet, Cord and Compound Ball).....	2.00
	Metal Cover for Handle Only.....	.12
	8-foot Cord with Compound Ball Only.....	.28
	Cord Guide Only.....	.10

G-E Standard Snap-catch Plug Receptacle Parts

660 Watts, 250 Volts
For Surface Work



For Surface Work
Cat. No. GE1226 Base with
Cat. No. GE1251 Plug Body*



For Pendent Work
Cat. No. GE1283 Cap with
Cat. No. GE1251 Plug Body**

*All G-E Snap-catch Bases are interchangeable with this Standard Plug Body.

**All G-E Snap-catch Caps are interchangeable with this Standard Plug Body.

No. GE1251 Standard Plug Receptacle Bodies

For Surface or Pendent Work

Double T Slots

660 Watts, 250 Volts

Schedule G Class 6



Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1251	10	50	15	\$.30

No. GE1230 Standard Plug Receptacle Bases Cleat Base

Schedule B



Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1230	10	100	30	\$.28

No. GE1227 Standard Plug Receptacle Bases

Moulding or Tablet Base

Schedule B

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1227	10	100	30	\$.30

No. GE1229 Standard Plug Receptacle Bases

3 1/4-inch Box Base

Schedule B



Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1229	10	100	100	\$.60

No. GE1228 Standard Plug Receptacle Bases

4-inch Box Base

Schedule B

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1228	5	100	105	\$.80



**No. GE1226 Standard Plug Receptacle Bases**

Concealed

Schedule B

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1226	10	100	40	\$.30

**No. GE1223 Standard Plug Receptacle Caps**

Pendent

Schedule B

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1223	10	250	35	\$.20

**No. GE1224 Standard Plug Receptacle Caps** $\frac{1}{8}$ -inch

Schedule B



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1224	10	100	12	\$.40

No. GE1225 Standard Plug Receptacle Caps $\frac{3}{8}$ -inch

Schedule B

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1225	10	100	12	\$.48

**No. GE1283 Standard Plug Receptacle Caps** $\frac{1}{2}$ -inch

Schedule B



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1283	10	100	.25	\$.54

No. GE1843 Standard Plug Receptacle Caps $\frac{3}{8}$ -inch 90° Angle

Schedule B

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1843	10	100	25	\$1.00

**No. GE1844 Standard Plug Receptacle Caps** $\frac{1}{2}$ -inch 90° Angle

Schedule B



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1844	10	100	25	\$1.20

No. GE665 Standard Plug Receptacles

Conduit Box Receptacle Two-screw Fastening

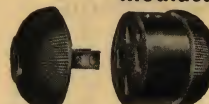
660 Watts, 250 Volts
Schedule G Class 6

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE665	10	50	20	\$.58

No. GE1656 Standard Motor Connectors
Moulded Compound—Slotted Base $\frac{13}{32}$ -inch Cord Hole

660 Watts, 250 Volts

Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1656	10	50	15	\$.86

No. GE1655 Standard Bases
For Motor Connectors—Slotted

Moulded Compound

 $\frac{13}{32}$ -inch Cord Hole

660 Watts, 250 Volts

Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1655	10	50	10	\$.26

No. GE716 Standard Cord ConnectorsMoulded Compound, $\frac{13}{32}$ -inch Cord Hole

660 Watts, 250 Volts

Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE716	10	50	15	\$.80

No. GE1351 Standard Bodies for
Cord and Motor ConnectorsMoulded Compound, $\frac{13}{32}$ -inch Cord Hole

660 Watts, 250 Volts

Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1351	10	50	10	\$.60

No. GE1345 Cord Connectors

Moulded Compound

10 Amp., 250 Volts

Schedule G Class 1

 $\frac{13}{32}$ -inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1345	10	100	30	\$.80

No. GE1346 Cord Connector Caps

Moulded Compound

10 Amp., 250 Volts

Schedule G Class 1

 $\frac{13}{32}$ -inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1346	10	100	15	\$.45

No. GE1347 Cord Connector Bodies
Moulded Compound

10 Amp., 250 Volts

Schedule G Class 1

 $\frac{13}{32}$ -inch Cord Hole

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1347	10	100	20	\$.35

No. GE1595 Cord Connectors
Moulded Compound
Vertical Wire Grooves

10 Amp., 250 Volts

Schedule G Class 1

 $\frac{13}{32}$ -inch Cord Hole

Arranged for permanent attachment.




Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1595	10	100	30	\$.80



No. GE1847 Cord Connectors
Moulded Compound
Horizontal Wire Grooves
10 Amp., 250 Volts


Schedule G Class 1
13/32-inch Cord Hole



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1847	10	100	30	\$.80

No. GE1000 Cord Connectors
Moulded Compound
30 Amp., 250 Volts
Schedule G Class 1

13/32-inch Cord Hole



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1000	10	100	15	\$.50

No. GE1001 Cord Connectors
Moulded Compound
60 Amp., 250 Volts
Schedule G Class 1




13/32-inch Cord Hole

For conveniently connecting portable electric equipment where it may be desirable to make and break connections frequently. Particularly suitable for use on equipment for circuses, carnivals, pleasure parks, army camps, fair grounds, arenas, aviation fields, motion picture studios and many others requiring exceedingly sturdy construction, positive connection and high current carrying capacity.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1001	10	100	25	\$.70

No. GE894 Standard Taps

Moulded Compound, 13/32-inch Cord Hole
660 Watts, 250 Volts
Schedule G Class 6



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE894	10	30	10	\$1.90

No. GE1162 Industrial Plug Receptacles



10 Amp., 250 Volts

Schedule G Class 1


With double pole plug cutout.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1162	1	20	25	\$2.40

This device is a combination of a plug receptacle accommodating "Standard" caps and a double-pole plug cutout under a single heavy steel cover plate. It is designed for assembly in a 3 1/4-inch outlet box mounted on heavy machinery and serves as a source of current for auxiliary portable electrical tools or lamps.

No. 35699 G-E Candelabra Screw Base To Medium Screw Base Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
35699	25	100	10	\$.20

No. GE070 Medium Screw Base to Mogul Screw Base Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE070	10	100	20	\$.50

No. GE169 Medium Screw Base to Bayonet Base Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE169	10	100	10	\$.60

No. GE999 Standard to Medium Screw Base Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE999	10	100	10	\$.20

No. GE682 Medium Screw Base to Standard Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE682	10	50	10	\$.40

No. GE1683 Standard T-Slot to Looped Prong Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1683	10	50	20	\$.50

No. GE1684 Standard T-Slot to Tandem Blade Adapters


Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1684	10	50	20	\$.50

No. GE1786 Standard T-Slot to Double Door Plug Adapters

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1786	10	50	30	\$.60



No. 903 Benjamin Swivel Attachment Plugs

660 Watts, 250 Volts



With Fibre Ring

Swivel shell permits plug to be attached or removed without twisting cord. Has fibre insulating ring, porcelain base, and molded bushing with $\frac{1}{32}$ -inch opening for cord.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
903	10	100	6 $\frac{1}{4}$	\$.25

No. GE48661 Weatherproof One-piece Attaching Plugs

Moulded Compound

660 Watts, 250 Volts

Schedule G Class 1

Has 6-inch wire leads.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
48661	10	250	60	\$.44



No. 903H Benjamin Flexi-handle Attachment Plugs

660 Watts, 250 Volts

Flexible metal extension is 5 inches long. Cord passes through hollow stem, which turns freely upon cable up to $\frac{1}{32}$ -inch in diameter.

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
903H	10	10	1 $\frac{3}{4}$	\$.60

No. 91 Benjamin Medium Base Socket Extensions

660 Watts, 250 Volts



No. 91 socket extension offers a convenient means of attaching glassware where the outlet does not otherwise permit it. The brass shell is provided with a bead for taking standard shade holders. It increases the length of socket only $1\frac{1}{4}$ inches and is especially serviceable in connection with flush sockets or ceiling receptacles. In long, narrow shades where the lamps are set too high for the best lighting effects, No. 91 may be used to lower the lamps. Standard finish is lacquered brass.

Carton, 10; standard package, 50.

Weight, standard package, 5 pounds.

Price, No. 91.....each \$.25

Benjamin Mogul Base Socket Extensions



No. 4396

The bodies of the Mogul socket extensions, Nos. 4396 and 4397 are of porcelain with shell and contacts of copper. For use with fixtures using Mogul base lamps where sockets are in a fixed position and too high. By means of this device the sockets may be extended $2\frac{1}{2}$ inches and lamp filament lowered correspondingly. Fixtures designed for 750 and 1000 watt lamps may be converted for use with 300 and 500 watt lamps with same character of distribution by addition of this extension.

Cat. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
4396	Without Lamp Grip	10	10	6 $\frac{1}{4}$	\$.90
4397	With Lamp Grip	10	10	6 $\frac{1}{2}$	1.00

No. 98 Benjamin Mogul Socket Reducers

660 Watts, 250 Volts

For adapting mogul screw base sockets for use with medium screw base lamps. Both threaded shells are made of copper. Carton, 50; standard package, 50.

Weight, standard package, 7 $\frac{1}{2}$ pounds.

Price, No. 98.....each \$.25



No. GE1370 Polarity Caps

Moulded Compound, $\frac{9}{16}$ -inch Cord Hole

20 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1370	10	30	15	\$.60

No. GE1369 Surface Polarity Plug Receptacles

Concealed Base

20 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1369	10	30	20	\$ 1.10



No. GE1368 Surface Polarity Plug Receptacles

Cleat Base

20 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1368	10	30	20	\$ 1.00

No. GE1367 Flush Polarity Plug Receptacles

Shallow—One-piece—Black Glazed Porcelain

20 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1367	10	30	20	\$ 1.50



No. 59197 G-E Polarity Caps

Porcelain, $\frac{1}{32}$ -inch Cord Hole

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59197	5	25	15	\$.60



No. 59200 G-E Polarity Caps

Moulded Compound, $\frac{1}{32}$ -inch Cord Hole

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59200	5	25	15	\$.90

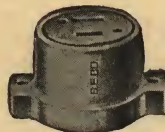


No. 59198 G-E Surface Polarity Plug Receptacles

Concealed Base—Porcelain

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59198	5	25	30	\$ 1.00

No. 59201 G-E Surface Polarity Plug Receptacles

Concealed Base Moulded Compound

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59201	5	25	35	\$ 1.60





No. GE996 Flush Polarity Plug Receptacles

Moulded Compound Top—Porcelain Base

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GE996	10	30	25	\$1.75

No. GE997 Flush Plates

For Polarity Plug Receptacle

30 Amp., 250 Volts

Schedule G Class 1

Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GE997	10	30	10	\$.40



No. 59192 G-E Polarity Caps

Porcelain, 13/32-inch Cord Hole

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
59192	5	25	15	\$.80

No. 59195 G-E Polarity Caps

Moulded Compound

13/32-inch Cord Hole

30 Amp., 250 Volts

Schedule G Class 1

Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
59195	5	25	15	\$1.20

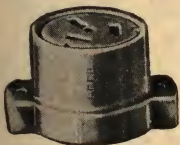


No. 59193 G-E Surface Polarity Plug Receptacles

Concealed Base—Porcelain

30 Amp., 250 Volts

Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
59193	5	25	35	\$1.40

No. 59196 G-E Surface Polarity Plug Receptacles

Concealed Base—Moulded Compound

30 Amp., 250 Volts

Schedule G Class 1

Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
59196	5	25	40	\$2.20



No. 59325 G-E Porcelain Sub-bases

For Cleat and Moulding Work

30 Amp., 250 Volts

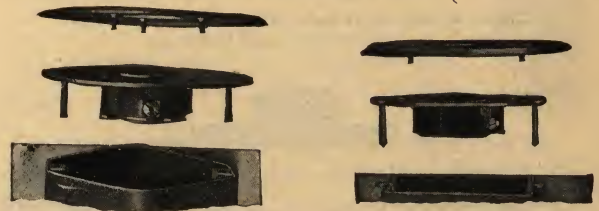
Schedule G Class 1



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
59325	5	20	10	\$.20

G-E Standard Elexits

10 Amperes, 250 Volts



When Elexits were developed every probable condition was anticipated and a device made to meet it. This seemed to be the logical course to follow. Unfortunately, prospective users and the trade, confused by the diversity of combinations presented, have been led to believe that the installation of Elexits is complicated and expensive. Realizing that this confusion was handicapping a popular appreciation of the value of Elexits, a logical and sensible simplification has now taken place.

Elexits are no longer complicated. They consist of:

One standard Wall Elexit and plate which can be mounted directly in any ordinary switch box.

One standard Ceiling Elexit and plate which can be mounted directly in any 4-inch square or octagon outlet box.

Two Elexits and two plates are all that the architect, builder or contractor need think about. These two types were selected as "standards" because they are most easily installed, can be installed in commonly used standard boxes, require no accessories, will accommodate most fixtures, they are most tasteful in appearance and economical.

In the use of these Elexits only one limitation is present, that is, the use of standard switch boxes for wall installations and standard 4-inch outlet boxes, either square or octagon, for ceiling installations, and this can hardly be called a limitation since both are boxes in common use in all types of construction.

No. LX111

Standard Wall Elexits with Narrow Steel Supporting Plates



Fastens directly to the ears on any standard switch box. Requires no fixtures, studs, stirrups or other accessories. Takes LX307 plates. Accommodates any wall bracket having a back plate or canopy which is more than 4 1/2 inches high, 2 3/4 inches wide and 5/8 inch deep.

Carton quantity, 10. Std. pkg., 50.

Weight, standard package, 10 pounds.

Price, No. LX111 each \$.75

No. LX307

Standard Elexit Flush Wall Plates



No. LX307 Plate



No. LX307 Plate on LX111 Wall Elexit

Semi rectangular, 4 1/2 inches high, 2 3/4 inches wide, and 0.040 inch in thickness. Fits LX111 Elexit. Covers any standard switch box.

Carton quantity, 10. Std. pkg., 50.

Weight, standard package, 15 pounds.

Price, No. LX307 each \$.35



G-E Ceiling Elexits and Plates

No. LX200 Standard Ceiling Elexits

Single Circuit with Large Steel Supporting Plate
10 Amperes, 250 Volts



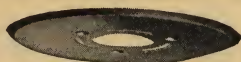
Fastens directly to the ears of any 4-inch square or octagon outlet box. Takes LX400 plate. Accommodates any ceiling fixture.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX200.....each \$1.05

No. LX400 Standard Elexit Flush Ceiling Plates



Round, 4 $\frac{5}{8}$ inches in diameter, 0.025 inch in thickness. Fits LX200. Covers any standard 4-inch square or octagon outlet box.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX400.....each \$.45



LX400 Plate on
LX200 Elexit

Two special head 6-32 mounting screws regularly furnished with each LX111 Wall Elexit. Two 8-32 mounting screws regularly furnished with each LX200 Ceiling Elexit. Oval head brass screws are included with each plate. Standard finish of plates is brush brass.

Plugs for G-E Elexits

10 Amperes, 250 Volts

In assaying the relative value of Elexits to the different interested groups, the public is placed first. Next to the public comes the fixture manufacturer and dealer, because Elexits make possible the conversion of the former one time market for fixtures into a periodic market for portable lighting equipment. Fixture manufacturers and dealers will be primarily interested in plugs for Elexits. A plug is provided for the various types of fixtures. When a fixture is converted into an Elexolier by the addition of a plug, it becomes a flexible furnishing which can be easily changed to meet changing fashions and improvements in the art of lighting.

The use of Elexit plugs places few restrictions on the fixture manufacturer. On the wall types it is only necessary that the manufacturer make the back plate or canopy sufficiently large to cover the LX307 plate; that they be sufficiently deep to clear the plug and, in the case of the French back types, that the bar be of the size and in the location required to accommodate the LX511 plug.

Most fixtures now meet these requirements and it is reasonable to expect that within a comparatively short time, all fixtures will be adaptable for use with Elexits since it is to the advantage of the fixture manufacturer to have them so.

All plugs for Elexits are equipped with large binding screws for the fixture wires. The current connecting plug is contained in a substantially constructed steel casing which locks into position in the Elexit by means of a small spring latch and carries the full weight of the Elexolier. The positive locking spring may be readily released when removal of the Elexolier is necessary, but its special design precludes the possibility of unintentional release.

Plugs for G-E Elexits

10 Amperes, 250 Volts

No. LX501 Plugs for Wall Use



Has $\frac{3}{8}$ -inch female plug for attachment permanent to slip-canopy brackets.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX501.....each \$.75

No. LX507 Plugs for Wall Use

Has $\frac{1}{8}$ -inch female plug for center knob brackets.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX507.....each \$.75



No. LX511 Plugs for Wall Use



Has $\frac{5}{8}$ -inch clearance inside of canopy required. Supporting bar must not exceed $\frac{1}{8}$ -inch in thickness nor $\frac{3}{8}$ -inch in width. Back of bar must be not less than $\frac{1}{4}$ -inch from wall surface.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX511.....each \$.75

No. LX600 Plugs for Ceiling Use

Has $\frac{3}{8}$ -inch female plug for use under canopies. Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX600.....each \$.90



No. LX602 Plugs for Ceiling Use

Has $\frac{3}{8}$ -inch female plug with nozzle threaded outside to accommodate plug cover. Intended for chain pendent use with LX642 plug cover and LX652 hook.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. LX602.....each \$1.05



No. LX642 Plug Covers

Threads to neck of LX602 plug serving as a canopy for pendent use.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 5 pounds.

Price, No. LX642.....each \$.40



No. LX652 Ceiling Plug Hooks



Has $\frac{3}{8}$ -inch male stud with passage for conductors.

Threads into LX602 and LX642 slips over it.

Carton quantity, 10. Standard package, 50.

Weight, standard package, 5 pounds.

Price, No. LX652.....each \$.25

No. LXJ Jigs for Wall Brackets

Manufacturers and dealers in French type brackets will find the jig listed indispensable.

With it they may be certain that bars are of the proper width and thickness, that they are located in a position to insure perfect hanging and that back plates are of sufficient depth for use on Elexits.

Carton quantity, 1. Standard package, 10.

Weight, standard package, 10 pounds.

Price, No. LXJ.....net each \$1.00

Standard finish of plugs, galvanized.

Standard finish of accessories, brush brass.



**G-E Flush Tumbler Switches**

G-E Flush Tumbler Switches employ the positive-start quick-make-and-break mechanism, assuring smooth and positive operation as well as freedom from either the freezing or burning of contacts.

Wide mounting ears assure position alignment with the wall surface which is an important feature on these switches.

**No. GE1688 Single-pole Flush Porcelain Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1688	S	10	100	30	\$9.90

No. GE1690 Three-way Flush Porcelain Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1690	S	10	50	20	\$1.40

**No. GE1691 Four-way Flush Porcelain Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1691	S	1	10	10	\$4.00

No. GE1689 Double-pole Flush Porcelain Tumbler Switches

10 Amp., 250 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1689	S	10	50	20	\$1.40

**No. GE1698 Double-pole Flush Porcelain Tumbler Switches**

20 Amp., 250 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1698	S	10	20	12	\$1.60

No. GE1692 Two-circuit Flush Porcelain Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1692	S	1	10	10	\$2.10

**No. GE1693 Three-circuit Flush Porcelain Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

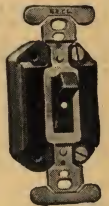
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1693	S	1	10	10	\$2.10

No. GE1694 Single-pole Flush Composition Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

**Shallow Moulded Compound Box
Dust-proof Cover**

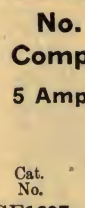
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1694	S	10	50	30	\$1.44

**No. GE1696 Three-way Flush Composition Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

**Shallow Moulded Compound Box
Dust-proof Cover**

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1696	S	10	20	20	\$1.76

**No. GE1697 Four-way Flush Composition Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

**Deep Compound Box
Dust-proof Cover**

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1697	S	1	10	12	\$4.00

**No. GE1695 Double-pole Flush Composition Tumbler Switches**

10 Amp., 250 Volts

**Shallow Moulded Compound Box
Dust-proof Cover**

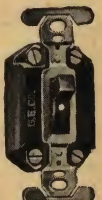
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1695	S	1	10	8	\$1.76

No. GE1699 Double-pole Flush Composition Tumbler Switches

20 Amp., 250 Volts

**Deep Moulded Compound Box
Dust-proof Cover**

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1699	S	1	10	12	\$2.80

**No. GE1755 Single-pole Flush Porcelain Locking Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1755	S	10	100	30	\$1.80

No. GE1757 Three-way Flush Porcelain Locking Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1757	S	10	50	20	\$2.30

**No. GE1758 Four-way Flush Porcelain Locking Tumbler Switches**

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1758	S	1	10	10	\$4.90



No. GE1756 Double-pole Flush Porcelain Locking Tumbler Switches

10 Amp., 250 Volts

Shallow Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1756	S	10	50	20	\$2.30



No. GE1761 Double-pole Flush Porcelain Locking Tumbler Switches

20 Amp., 250 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1761	S	1	20	12	\$2.50



No. GE1759 Two-circuit Flush Porcelain Locking Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1759	S	1	10	10	\$3.00



No. GE1760 Three-circuit Flush Porcelain Locking Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1760	S	1	10	10	\$3.00



G-E Flush Pony Tumbler Switches

Schedule S



No. GE1415



No. GE1417

These flush switches will not fit standard switch boxes. Sprague Cover No. 54-C-64 for 4-inch boxes must be used.

Single Pole: 3-amp., 250-volt; 6-amp., 125-volt

Cat. No.	DIMENSIONS, IN.			Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	Length	Width	Depth				
GE1415	2	1 1/2	1 3/8	10	100	25	\$.90

Three-way: 2-amp., 250-volt; 5-amp., 125-volt

Cat. No.	Length	Width	Depth	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1417	2	1 1/2	1 3/8	10	50	15	\$1.40

Flush Plates for Pony Tumbler Switches

Struck-up Brass—.040-inch Metal



No. GE1416



No. GE1418

Standard finish, brush brass. Special finishes are shown on another page.

Flush plates for Pony Tumbler Switches cannot be furnished in combinations or gangs.

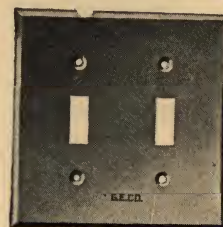
Cat. No.	Description	DIMEN. IN.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		Height Width				
1416	Rectangular	3 1/2 2 5/8	10	100	20	\$.28
1418	Oval	3 1/2 2 3/8	10	100	20	.28

G-E Flush Plates for Tumbler Switches

Brass Plates



Single



Two-gang

Struck-up Brass Plates, Horizontal Gangs .040-inch Metal

No. of Switches	Sched-ule	Brush Brass		Lacquer	
		Cat. No.	Price Each	Cat. No.	Price Each
1	S	GE1701	\$.28	GE1711	\$.20
2	S	GE1702	.56	GE1712	.40
3	S	GE1703	.84	GE1713	.60
4	S	GE1704	1.76	GE1714	1.44
5	S	GE1705	2.20	GE1715	1.80
6	S	GE1706	2.64	GE1716	2.16
7	S	GE1707	3.08	GE1717	2.52
8	S	GE1708	3.52	GE1718	2.88

Struck-up Brass Plates, Horizontal Gangs .060-inch Metal

1	S	GE1741	\$.36	GE1861	\$.28
2	S	GE1742	.72	GE1862	.56

Solid Brass Plates, Horizontal Gangs .100-inch Metal

1	S	GE1721	\$.68	GE1871	\$.60
2	S	GE1722	1.36	GE1872	1.20
3	S	GE1723	2.04	GE1873	1.80
4	S	GE1724	2.72	GE1874	2.40
5	S	GE1725	4.00	GE1875	3.60
6	S	GE1726	4.80	GE1876	4.32
7	S	GE1727	5.60	GE1877	5.04
8	S	GE1728	6.40	GE1878	5.76

Plates larger than 8 gang of standard dimensions and screw spacings can be furnished in brush brass at 80 cents list per gang and in lacquer finish at 72 cents list per gang.

Solid Brass Plates, Vertical Gangs .100-inch Metal

2	S	GE1795	\$1.60	GE1882	\$1.44
3	S	GE1796	2.40	GE1883	2.16
4	S	GE1797	3.20	GE1884	2.88

Plates larger than 4 gang of standard dimensions and screw spacings can be furnished in brush brass at 96 cents list per gang and in lacquer finish at 88 cents list per gang.

A standard package of tumbler switch plates consists of 100 single plates or their equivalent in gangs, viz.: any assortment of switch plates sufficient to accommodate 100 switches of one type.

20 gangs or 1/2 of a standard package will constitute a carton quantity.

Standard finish is brush brass.

No. GE1834 Solid Bakelite Plates



This Bakelite plate has a rich black finish and is practically indestructible. As it is stainless, it is particularly recommended for commercial and industrial purposes where it will retain its original lustre despite hard and frequent usage. This soft black finish harmonizes with almost any decorative treatment.

Single bakelite plates only are made. They cannot be furnished in gangs.

Cat. No.	Sched-ule	No. of Switches	Price Each
GE1834	S	1	\$.68



G-E Two-gang Combination Flush Plates

Struck-up Brass—Horizontal Gangs

Schedule G—Class 1



For G-E tumbler switch and twin convenience outlet.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE1792	\$.76	GE2012	\$.60

0.060-inch Metal

*GE2022	\$.92	*GE2032	\$.76
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No. GE1792

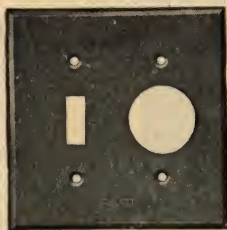
For G-E tumbler switch and single convenience outlet without door.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE1791	\$.76	GE2011	\$.60

0.060-inch Metal

*GE2021	\$.92	*GE2031	\$.76
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No. GE1791



No. GE1793

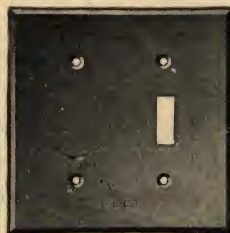
For G-E tumbler switch and single convenience outlet or medium screw base receptacle with door at right.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE1793	\$.82	GE2013	\$.66

0.060-inch Metal

*GE2023	\$.98	*GE2033	\$.82
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No. GE2067

For G-E tumbler switch and single convenience outlet or medium screw base receptacle with door at left.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2067	\$.82	GE2014	\$.66

0.060-inch Metal

*GE2024	\$.98	*GE2034	\$.82
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No. GE2069

For G-E tumbler switch and pilot lamp receptacle.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2069	\$2.08	GE2016	\$1.92

0.060-inch Metal

*GE2026	\$2.24	GE2036	\$2.08
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*Can be furnished but is not carried in stock.

The standard package of any of the above plates is 10 plates of one catalogue number. (Not 10 gangs.)

One plate will constitute a carton quantity.

Standard finish is brush brass.

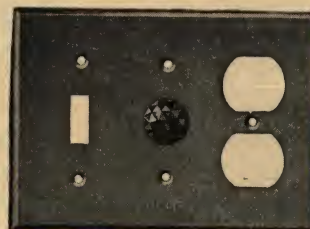
Special finishes are shown on another page of this catalogue.

Dimensions: Height, 4½ inches; width, 4¾ inches.

G-E Three-gang Combination Flush Plates

Struck-up Brass—Horizontal Gangs

Schedule G—Class 1

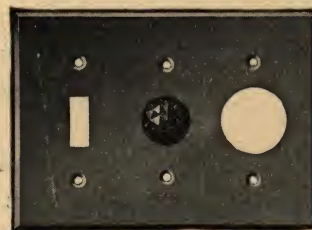


No. GE2152

For G-E tumbler switch, pilot lamp receptacle and twin convenience outlet.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2152	\$2.56	GE2162	\$2.32



No. GE2151

For G-E tumbler switch, pilot lamp receptacle and single convenience outlet without door.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2151	\$2.56	GE2161	\$2.32



No. GE2153

For G-E tumbler switch, pilot lamp receptacle and single convenience outlet or medium screw base receptacle with door at right.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2153	\$2.66	GE2163	\$2.42

For G-E tumbler switch, pilot lamp receptacle and single convenience outlet or medium screw base receptacle with door at left.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2154	\$2.66	GE2164	\$2.42



No. GE2154

The standard package of any of the above plates is 10 plates of one catalogue number. (Not 10 gangs.)

One plate will constitute a carton quantity.

Standard finish is brush brass.

Special finishes are shown on another page of this catalogue.

Dimensions: height, 4½ inches; width, 6¾ inches.



No. GE632 Geco Single-pole Flush Porcelain Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE632	S	10	100	50	\$.70

No. GE634 Three-way Geco Flush Porcelain Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE634	S	10	50	25	\$1.00



No. 68250 G-E Four-way Flush Porcelain Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68250	S	1	10	10	\$4.00

No. 68248 G-E Double-pole Flush Porcelain Push Button Switches

10 Amp., 250 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68248	S	10	50	30	\$1.40



No. GE630 Double-pole Flush Push Porcelain Button Switches

20 Amp., 250 Volts

Deep Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE630	S	1	20	15	\$1.60

No. GE635 Two-circuit Flush Porcelain Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE635	S	1	10	10	\$2.10



No. GE636 Three-circuit Flush Porcelain Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE636	S	1	10	10	\$2.10

No. GE1700 Single-pole Flush Composition Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Moulded Compound Box
Dust-proof Cover

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1700	S	10	50	50	\$1.44



No. GE1720 Three-way Flush Composition Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Moulded Compound Box
Dust-proof Cover

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1720	S	10	20	25	\$1.76

No. GE1730 Four-way Flush Composition Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Moulded Compound Box
Dust-proof Cover

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1730	S	1	10	12	\$4.00



No. GE1710 Double-pole Flush Composition Push Button Switches

10 Amp., 250 Volts

Deep Moulded Compound
Dust-proof Cover Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1710	S	1	10	12	\$1.76

No. GE1740 Double-pole Flush Composition Push Button Switches

20 Amp., 250 Volts

Deep Moulded Compound Box
Dust-proof Cover

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1740	S	1	10	12	\$2.80



No. GE688 Single-pole Flush Porcelain Locking Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE688	S	10	100	50	\$1.80

No. GE690 Three-way Flush Porcelain Locking Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE690	S	10	50	25	\$2.30



No. GE691 Four-way Flush Locking Porcelain Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE691	S	1	10	10	\$4.90

No. GE689 Double-pole Flush Porcelain Locking Push Button Switches

10 Amp., 250 Volts

Shallow Porcelain Box

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE689	S	10	50	30	\$2.30





No. GE631 Double-pole Flush Porcelain Locking Push Button Switches

20 Amp., 250 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE631	S	1	20	15	\$2.50

No. GE637 Two-circuit Flush Porcelain Locking Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE637	S	1	10	10	\$3.00



No. GE638 Three-circuit Flush Porcelain Locking Push Button Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Deep Porcelain Box

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE638	S	1	10	10	\$3.00



No. GE861 Radieye Luminous Flush Plate Screws



Side View



Front View

G-E Radieye Luminous Flush Plate Screws contain genuine radium which assures an effective life over a period of several years. They do not depend upon exposure to sunlight for continuous effective light. Can be readily located from a considerable distance. They may be easily substituted for one of the ordinary screws on any flush plate now installed or they can be supplied for use with any flush plate listed in this catalogue.

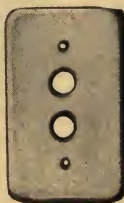
When required for specific installations orders should so state as Radieye screws are packed two ways: on display cards for counter sale, in envelopes for specific installation.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE861	G (class 1)	25 (1 card)	100	5	\$.50

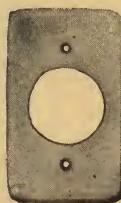
Lumo-vitro Porcelain Enameled Switch Plates



S-20044



S-20043



S-20046

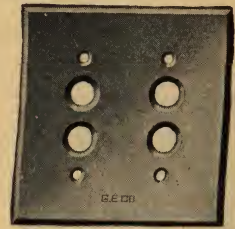
For hospitals, hotels, homes, stores, office buildings, etc. Packed in individual cartons including nickel-plated screws.

Type	Size	Std. Pkg.	Price, Ea.
S-20043	Single Gang Push	25	\$.25
S-20044	Two " "	25	.60
S-20045	Three " "	25	.90
S-20046	Receptacle Plate	25	.25

G-E Flush Plates for Push Button Switches



Single



Two-gang

Struck-up Brass Plates—Horizontal Gangs

.040-inch Metal

No. of Switches	Sched-ule	Brush Brass		Lacquer	
		Cat. No.	Price Each	Cat. No.	Price Each
1	S	GE232	\$.28	GE1587	\$.20
2	S	GE233	.56	GE1588	.40
3	S	GE234	.84	GE1589	.60
4	S	GE1734	1.76	GE1744	1.44
5	S	GE1735	2.20	GE1745	1.80
6	S	GE1736	2.64	GE1746	2.16
7	S	GE1737	3.08	GE1747	2.52
8	S	GE1738	3.52	GE1748	2.88

Struck-up Brass Plates—Horizontal Gangs

.060-inch Metal

No.	Sched-ule	Cat. No.	Price Each	Cat. No.	Price Each
1	S	GE1731	\$.36	GE1961	\$.28
2	S	GE1732	.72	GE1962	.56

Solid Brass Plates—Horizontal Gangs

.100-inch Metal

No.	Sched-ule	Cat. No.	Price Each	Cat. No.	Price Each
1	S	49752	\$.68	GE1971	\$.60
2	S	60492	1.36	GE1972	1.20
3	S	60493	2.04	GE1973	1.80
4	S	60494	2.72	GE1974	2.40
5	S	60495	4.00	GE1975	3.60
6	S	60496	4.80	GE1976	4.32
7	S	60497	5.60	GE1977	5.04
8	S	60498	6.40	GE1978	5.76

Solid plates larger than 8 gang of standard dimensions and screw spacings can be furnished in brush brass at 80 cents list per gang and in lacquer finish at 72 cents list per gang.

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Solid Brass Plates—Vertical Gangs

.100-inch Metal

No. of Switches	Sched-ule	Brush Brass		Lacquer	
		Cat. No.	Price Each	Cat. No.	Price Each
2	S	60499	\$1.60	GE1848	\$1.44
3	S	60500	2.40	GE1849	2.16
4	S	60501	3.20	GE1850	2.88



Two-gang Vertical

Plates larger than 4-gang of standard dimensions and screw spacings can be furnished in brush brass at 96 cents list per gang and in lacquer finish at 88 cents list per gang.

A standard package of tumbler switch plates consists of 100 single plates or their equivalent in gangs, viz.: Any assortment of switch plates sufficient to accommodate 100 switches of one type.

20 gangs or 1/2 of a standard package will constitute a carton quantity.

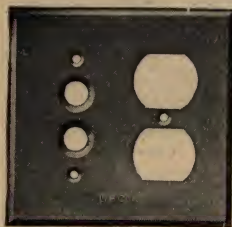
Standard finish is brush brass.



G-E Two-gang Combination Flush Plates

Struck-up Brass—Horizontal Gangs

Schedule G—Class 1



No. GE1783

For push button switch and twin convenience outlet.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE1783	\$.76	GE2042	\$.60

0.060-inch Metal

*GE2052	\$.92	*GE2062	\$.76
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For push button switch and single convenience outlet without door.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE1782	\$.76	GE2041	\$.60

0.060-inch Metal

*GE2051	\$.92	*GE2061	\$.76
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No. GE1782

For push button switch and single convenience outlet or medium screw base receptacle with door at right.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE1784	\$.82	GE2043	\$.66

0.060-inch Metal

*GE2053	\$.98	*GE2063	\$.82
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No. GE1784

For push button switch and single convenience outlet or medium screw base receptacle with door at left.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2050	\$.82	GE2044	\$.66

0.060-inch Metal

*GE2054	\$.98	*GE2064	\$.82
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No. GE2050

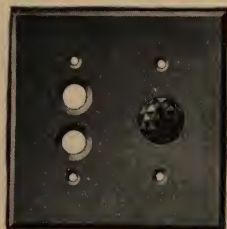
For push button switch and pilot lamp receptacle.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2058	\$2.08	GE2046	\$1.92

0.060-inch Metal

*GE2056	\$2.24	*GE2066	\$2.08
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No. GE2058

*Can be furnished but is not carried in stock.

The standard package of any of the above plates is 10 plates of one catalogue number. (Not 10 gangs.)

One plate will constitute a carton quantity.

Standard finish is brush brass.

Special finishes are shown on another page of this catalogue.

Dimensions: height, $4\frac{1}{2}$ inches; width, $4\frac{3}{8}$ inches.

G-E Three-gang Combination Flush Plates

Struck-up Brass—Horizontal Gangs

Schedule G—Class 1



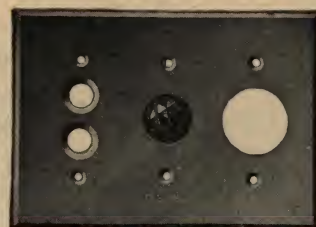
No. GE2072

For push button switch, pilot lamp receptacle and twin convenience outlet.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2072	\$2.56	GE2082	\$2.32

For push button switch, pilot lamp receptacle and single convenience outlet without door.



No. GE2071

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2071	\$2.56	GE2081	\$2.32



No. GE2073

For push button switch, pilot lamp receptacle and single convenience outlet or medium screw base receptacle with door at right.

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2073	\$2.66	GE2083	\$2.42

For push button switch, pilot lamp receptacle and single convenience outlet or medium screw base receptacle with door at left.



No. GE2074

0.040-inch Metal

BRUSH BRASS		LACQUER	
Cat. No.	Price Each	Cat. No.	Price Each
GE2074	\$2.66	GE2084	\$2.42

The standard package of any of the above plates is 10 plates of one catalogue number. (Not 10 gangs.)

One plate will constitute a carton quantity.

Standard finish is brush brass.

Special finishes are shown on another page of this catalogue.

Dimensions: height, $4\frac{1}{2}$ inches; width, $6\frac{3}{8}$ inches.



G-E Solid Brass Combination Plates

Schedule G, Class 1



I—For GE1688 Type



K—For GE1428 or GE1429 Type

I—For GE1688 Type Tumbler Switches
Price, Brush Brass.....each \$.88
" Lacquer......80

K—For GE1428 or GE1429 Type Tumbler Switches with Metal Covered Handles
Price, Brush Brass.....each \$.98
" Lacquer......90



P—For GE632 Type



D—For GE694 Type

P—For GE632 Type Push Button Switches
Price, Brush Brass.....each \$.88
" Lacquer......80

D—For GE694 Twin Convenience Outlets
Price, Brush Brass.....each \$.88
" Lacquer......80



F—For GE658 or GE1805 Type



E—For Single Convenience Outlets

F—For GE658 Type Single Convenience Outlets or GE1805 Polarity Type Receptacles

Price, Brush Brass.....each \$.88
" Lacquer......80

E—For Single Convenience Outlets or Medium Screw Base Receptacles with Lift Covers
Price, Brush Brass.....each \$.98
" Lacquer......90



C—For GE287 Type



M—For GE996 or GE1367 Type

C—For GE287 Type Double Door Receptacles
Price, Brush Brass.....each \$1.60
" Lacquer.....1.52

M—For GE996 or GE1367 Type Plug Receptacles
Price, Brush Brass.....each \$1.00
" Lacquer......92

G-E Solid Brass Combination Plates

Schedule G Class 1



L—Blank



B—For GE853 Type

L—Blank
Price, Brush Brass.....each \$.96
" Lacquer......88

B—For GE853 Type Pilot Lamp Receptacles
Price, Brush Brass.....each \$2.20
" Lacquer.....2.12



A—For GE853 Type



G—Telephone

A—For GE853 Type Pilot Lamp Receptacle with Removable Bull's Eye

Price, Brush Brass.....each \$3.00
" Lacquer.....2.92

G—Telephone Plate with 3/8-inch Compound Bushing
Price, Brush Brass.....each \$1.00
" Lacquer......92

The arrangement of the devices to be mounted will govern the order of the letters identifying the combination plate desired. For example, a plate for GE1688 Tumbler Switch, GE853 Pilot Lamp Receptacle and GE694 Twin Convenience Outlet mounted horizontally in that order is identified as an IBD plate, while a plate for the same devices mounted vertically is identified as an B plate.

The list price of any combination plate arranged in one horizontal row is the sum of the individual list prices of the component plates. Example: IBD plate in brush brass finish is 88 cents—\$2.20—88 cents which equals \$3.96. For tandem plates or plates consisting of two or more horizontal rows add 20 per cent to the sum of the list prices. Example: B plate in brush brass finish is 88 cents —\$2.20—88 cents which equals \$3.96+79 cents (20 per cent) which is equal to \$4.75.

Standard package—10 plates of one description (not 10 gangs). Carton quantity, one plate.

Standard finish is brush brass.

This listing covers plates identified by two or more different letters and of standard dimensions and screw spacings only. For horizontal or vertical gang plates for one type of device, see respective standard plate listing.

Screw holes in blank and telephone plates are 3 3/32 inches on centers and on all others 2 3/8 inches on centers.

Openings on horizontal plates are 1 1/8 inches on centers and on vertical plates 3 3/8 inches on centers.



G-E Special Flush Plates and Accessories

Plates of Special Dimensions and Screw Spacings .100-inch Metal Only

Plates of special dimensions and screw spacings will be billed at 14 cents list per square inch plus the list price of nearest regular solid plate. In no case will charge be less than for a single solid plate. Example: the list price of an ID plate measuring 5 in. x 5 in. would be computed thus: $5 \times 5 = 25$ sq. in.; 25×14 cents = \$3.50; $\$3.50 + \$1.76 = \$5.26$.

Standard package quantity—10 plates of one style and size. Carton quantity, one plate.

Schedule G (Class 1).

Detail sketch giving all dimensions and specifications will be required.

Plates with Round Corners and Round Edges .100-inch Metal Only

For single plates with round corners and round edges having standard dimensions and screw spacings add 30 cents list to the price of single solid plates. For gangs or combination plates with round corners and round edges add 30 cents list for the first section and 10 cts. list for each additional section.

Standard package, 10 plates of one style.

Carton quantity, one plate.

Plates with Round Corners and Beveled Edges .100-inch Metal Only

For single or gang plates with round corners and beveled edges add 15 cents list per plate.

Standard package, 10 plates of one style.

Carton quantity, one plate.

Plates with Square Edges—.100-inch Metal Only

Plates with square corners and square edges having standard dimensions and screw spacings can be furnished at the same price as regular solid plates. For plates with round corners and square edges the additional charge will be the same as given above for round corners and beveled edges.

Standard package, 10 plates of one style.

Carton quantity, one plate.

Plates with Raised Edges—.100-inch Metal Only

Where it is desirable to raise the plate because of obstructions or projections solid plates can be furnished with a raised edge. Quotations for plates of this character will be given upon receipt of detail information, as to the style of plate and height of offset required.

Standard package, 10 plates of one style.

Carton quantity, one plate.

Plates of Special Metal—.100-inch Metal Only

Plates of genuine rolled bronze having standard dimensions and screw spacings can be furnished at 50 per cent additional to the list price of the corresponding solid brass plate. Plates of Benedict metal can be furnished at double the price of the corresponding solid brass plate. For plates of other metals prices will be quoted upon application.

Standard package quantity, carton quantity and schedule same as for the corresponding standard plate.

No assortment permitted.

Engraving

Flush plates may be engraved with identifying words or numbers, deeply etched in block design of any desired height. For engraving on plates, add 20 cents per character to the list price of plate to be engraved.

Standard package, 10 plates of one style.

Carton quantity, one plate.

Flush Plate Screws

Oval head flush plate screws finished to match plates are regularly supplied with all flush plates. When purchased separately these will be billed at \$1.50 list per hundred.

Standard package—100. Schedule G (Class 1).

Special Finishes

The standard finish on all brass flush plates is brush brass, and this finish will be furnished on all orders where no finish is specified (excepting, of course, where a catalogue number designates a particular finish as is the case on standard lacquer finish plates).

No. GE969 Single-pole Surface Tumbler Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Pony Type

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE969	S	10	100	30	\$.64

No. GE970 Single-pole Surface Tumbler Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Pony Type

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE970	S	10	100	30	\$.64



No. GE985 Single-pole Surface Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE985	S	10	100	45	\$.96

No. GE984 Single-pole Surface Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE984	S	10	100	45	\$.96



No. GE971 Three-way Surface Tumbler Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Pony Type

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE971	S	10	100	35	\$1.12

No. GE973 Three-way Surface Tumbler Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Pony Type

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE973	S	10	100	35	\$1.12



No. GE989 Three-way Surface Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE989	S	10	50	50	\$1.52

No. GE988 Three-way Surface Tumbler Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE988	S	10	50	50	\$1.52





No. GE987 Double-pole Surface Tumbler Switches

10 Amp., 250 Volts

Slotted Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE987	S	10	100	50	\$1.52

No. GE986 Double-pole Surface Tumbler Switches

10 Amp., 250 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE986	S	10	100	50	\$1.52

No. GE1687 Double-pole Surface Tumbler Switches

20 Amp., 250 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1687	S	1	30	40	\$2.80

No. GE239 Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Indicating, Pony Type

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE239	S	10	250	65	\$.64

No. GE240 Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Pony Type

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE240	S	10	250	65	\$.56

No. GE241 Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Indicating, Pony Type

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE241	S	10	250	65	\$.64

No. GE242 Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Pony Type

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE242	S	10	250	65	\$.56

No. 59873 G-E Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Indicating

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59873	S	10	100	35	\$.80

No. 59874 G-E Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.



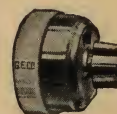
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59874	S	10	100	35	\$.72

No. 60294 G-E Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Indicating

Standard finish, polished nickel.



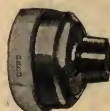
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60294	S	10	100	35	\$.80

No. 60295 G-E Single-pole Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.



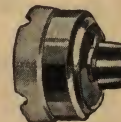
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60295	S	10	100	35	\$.72

No. 60447 G-E Single-pole Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base, Indicating

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60447	S	10	100	45	\$1.08

No. 60448 G-E Single-pole Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.



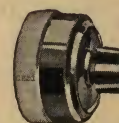
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60448	S	10	100	45	\$.96

No. 60449 G-E Single-pole Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base, Indicating

Standard finish, polished nickel.



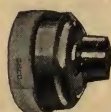
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60449	S	10	100	45	\$1.08

No. 60450 G-E Single-pole Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60450	S	10	100	45	\$.96

No. 59875 Three-way G-E Surface Rotary Switches

1 Amp., 250 Volts; 3 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
59875	S	10	100	35	\$.96



No. 60296 G-E Three-way Surface Rotary Switches

1 Amp., 250 Volts; 3 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60296	S	10	100	35	\$.96

No. 60954 G-E Three-way Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60954	S	10	100	40	\$1.12



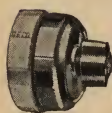
No. 60955 G-E Three-way Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60955	S	10	100	40	\$1.12



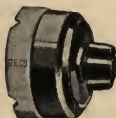
No. 60455 G-E Three-way Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60455	S	10	50	20	\$1.52



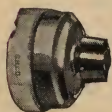
No. 60456 G-E Three-way Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60456	S	10	50	20	\$1.52



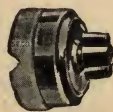
No. 60458 G-E Four-way Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60458	S	10	30	15	\$1.72



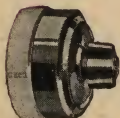
No. 60459 G-E Four-way Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60459	S	10	30	15	\$1.72



No. 60950 G-E Double-pole Surface Rotary Switches

5 Amp., 250 Volts

Slotted Base, Indicating

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60950	S	10	100	36	\$1.28



No. 60951 G-E Double-pole Surface Rotary Switches

5 Amp., 250 Volts

Slotted Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60951	S	10	100	36	\$1.12

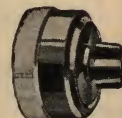
No. 60952 G-E Double-pole Surface Rotary Switches

5 Amp., 250 Volts

Closed Base, Indicating

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60952	S	10	100	36	\$1.28

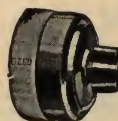


No. 60953 G-E Double-pole Surface Rotary Switches

5 Amp., 250 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60953	S	10	100	36	\$1.12

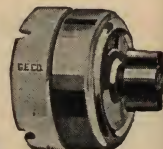
No. 60451 G-E Double-pole Surface Rotary Switches

10 Amp., 250 Volts

Slotted Base, Indicating

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60451	S	10	100	45	\$1.52

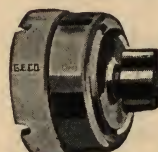


No. 60452 G-E Double-pole Surface Rotary Switches

10 Amp., 250 Volts

Slotted Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60452	S	10	100	45	\$1.32

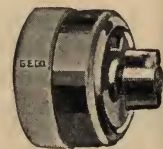
No. 60453 G-E Double-pole Surface Rotary Switches

10 Amp., 250 Volts

Closed Base, Indicating

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60453	S	10	100	45	\$1.52

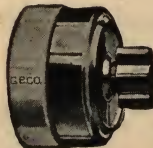


No. 60454 G-E Double-pole Surface Rotary Switches

10 Amp., 250 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60454	S	10	100	45	\$1.32

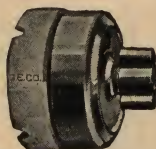
No. 68386 G-E Double-pole Surface Rotary Switches

20 Amp., 250 Volts

Slotted Base, Indicating

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68386	S	1	30	20	\$3.00

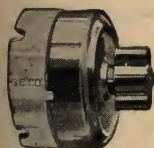




No. 68385 G-E Double-pole Surface Rotary Switches

20 Amp., 250 Volts
Slotted Base

Standard finish, polished nickel.



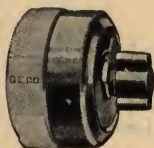
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68385	S	1	30	20	\$2.80

No. 68388 G-E Double-pole Surface Rotary Switches

20 Amp., 250 Volts

Closed Base, Indicating

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68388	S	1	30	20	\$3.00

No. 68387 G-E Double-pole Surface Rotary Switches

20 Amp., 250 Volts

Closed Base

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68387	S	1	30	20	\$2.80

G-E Surface Rotary Switches

2 Amp., 250 Volts., 5 Amp., 125 Volts

Slotted Base, Indicating

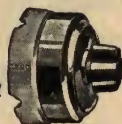
Standard finish, polished nickel.

Two-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60461	S	10	30	15	\$1.72

Three-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60465	S	10	30	15	\$2.00



G-E Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base

Standard finish, polished nickel.



Two-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60460	S	10	30	15	\$1.52

Three-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60464	S	10	30	15	\$1.80

G-E Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Indicating

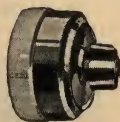
Standard finish, polished nickel.

Two-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60462	S	10	30	15	\$1.72

Three-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60466	S	10	30	15	\$2.00



G-E Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base

Standard finish, polished nickel.



Two-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60463	S	10	30	15	\$1.52

Three-circuit

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60467	S	10	30	15	\$1.80

No. GE888 Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Indicating, Pony Type



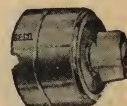
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE888	S	10	100	40	\$.72

No. GE889 Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base, Pony Type

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE889	S	10	100	40	\$.64



No. GE890 Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Indicating, Pony Type



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE890	S	10	100	40	\$.72

No. GE891 Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Pony Type

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE891	S	10	100	40	\$.64



No. GE832 Single-pole Porcelain Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base, Indicating



Cat No	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE832	S	10	30	20	\$1.24

No. GE833 Single-pole Porcelain Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Slotted Base

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE833	S	10	30	20	\$1.12



No. GE834 Single-pole Porcelain Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base, Indicating



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE834	S	10	30	20	\$1.24

No. GE835 Single-pole Porcelain Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base

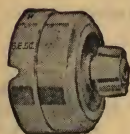
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE835	S	10	30	20	\$1.12





No. GE836 Three-way Porcelain Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts



Slotted Base						
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE836	S	1	10	10	\$1.68	

No. GE837 Three-way Porcelain Surface Rotary Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Closed Base

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE837	S	1	10	10	\$1.68	



No. GE842 Four-way Porcelain Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base



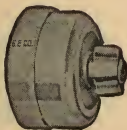
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE842	S	1	10	10	\$1.88	

No. GE843 Four-way Porcelain Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE843	S	1	10	10	\$1.88	



No. GE838 Double-pole Porcelain Surface Rotary Switches

10 Amp., 250 Volts

Slotted Base, Indicating



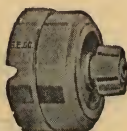
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE838	S	1	10	10	\$1.68	

No. GE839 Double-pole Porcelain Surface Rotary Switches

10 Amp., 250 Volts

Slotted Base

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE839	S	1	10	10	\$1.48	



No. GE840 Double-pole Porcelain Surface Rotary Switches

10 Amp., 250 Volts

Closed Base, Indicating



Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE840	S	1	10	10	\$1.68	

No. GE841 Double-pole Porcelain Surface Rotary Switches

10 Amp., 250 Volts

Closed Base

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE841	S	1	10	10	\$1.48	



G-E Porcelain Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Slotted Base, Indicating



Two-circuit						
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE844	S	1	10	10	\$1.88	
Three-circuit						
GE848	S	1	10	10	\$2.16	

G-E Porcelain Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Slotted Base

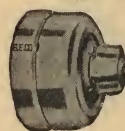
Two-circuit						
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE845	S	1	10	10	\$1.68	
Three-circuit						
GE849	S	1	10	10	\$1.96	



G-E Porcelain Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base, Indicating



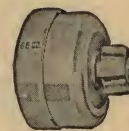
Two-circuit						
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE846	S	1	10	10	\$1.88	
Three-circuit						
GE850	S	1	10	10	\$2.16	

G-E Porcelain Surface Rotary Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Closed Base

Two-circuit						
Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
GE847	S	1	10	10	\$1.68	
Three-circuit						
GE851	S	1	10	10	\$1.96	



No. 63313 G-E Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Cleat Base, Indicating



Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
63313	S	10	100	45	\$.80	

No. 61909 G-E Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Cleat Base

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
61909	S	10	100	45	\$.72	



No. 88985 G-E Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Moulding Base, Indicating



Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
88985	S	10	100	45	\$.80	

No. 88986 G-E Single-pole Porcelain Surface Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Moulding Base

Cat. No.	Schedule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
88986	S	10	100	45	\$.72	





No. GE909 Single-pole Surface Rotary Switches

5 Amp., 600 Volts
Slotted Base, Indicating



Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE909	S	10	50	20	\$1.52

No. GE908 Single-pole Surface Rotary Switches

5 Amp., 600 Volts
Slotted Base

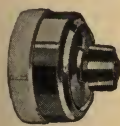
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE908	S	10	50	20	\$1.32



No. GE911 Single-pole Surface Rotary Switches

5 Amp., 600 Volts
Closed Base, Indicating



Standard finish, polished nickel.

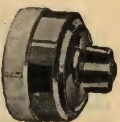
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
E911	S	10	50	20	\$1.52

No. GE910 Single-pole Surface Rotary Switches

5 Amp., 600 Volts
Closed Base

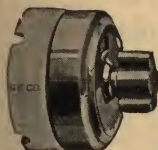
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE910	S	10	50	20	\$1.32



No. GE919 Single-pole Surface Rotary Switches

10 Amp., 600 Volts
Slotted Base, Indicating



Standard finish, polished nickel.

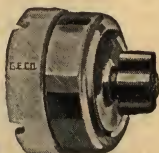
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE919	S	10	50	45	\$3.40

No. GE918 Single-pole Surface Rotary Switches

10 Amp., 600 Volts
Slotted Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE918	S	10	50	45	\$3.20



No. GE921 Single-pole Surface Rotary Switches

10 Amp., 600 Volts
Closed Base, Indicating



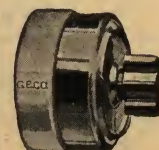
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE921	S	10	50	45	\$3.40

No. GE920 Single-pole Surface Rotary Switches

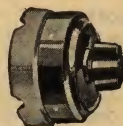
10 Amp., 600 Volts
Closed Base

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE920	S	10	50	45	\$3.20



No. GE912 Three-way Surface Rotary Switches

5 Amp., 600 Volts
Slotted Base



Standard finish, polished nickel.

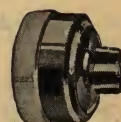
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE912	S	10	50	25	\$1.80

No. GE913 Three-way Surface Rotary Switches

5 Amp., 600 Volts
Closed Base

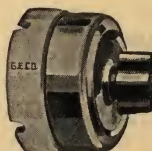
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE913	S	10	50	25	\$1.80



No. GE922 Three-way Surface Rotary Switches

10 Amp., 600 Volts
Slotted Base



Standard finish, polished nickel.

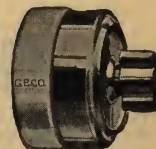
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE922	S	1	50	45	\$3.40

No. GE923 Three-way Surface Rotary Switches

10 Amp., 600 Volts
Closed Base

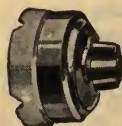
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE923	S	1	50	45	\$3.40



No. GE915 Double-pole Surface Rotary Switches

5 Amp., 600 Volts
Slotted Base, Indicating



Standard finish, polished nickel.

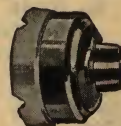
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE915	S	10	50	40	\$2.00

No. GE914 Double-pole Surface Rotary Switches

5 Amp., 600 Volts
Slotted Base

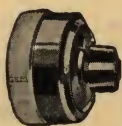
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE914	S	10	50	40	\$1.80



No. GE917 Double-pole Surface Rotary Switches

5 Amp., 600 Volts
Closed Base, Indicating



Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE917	S	10	50	40	\$2.00

No. GE916 Double-pole Surface Rotary Switches

5 Amp., 600 Volts
Closed Base

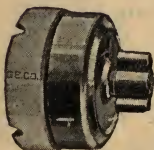
Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE916	S	10	50	40	\$1.80





No. GE925 Double-pole Surface Rotary Switches



10 Amp., 600 Volts
Slotted Base, Indicating

Standard finish, polished nickel.

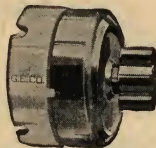
Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE925	S	1	50	50	\$3.80

No. GE924 Double-pole Surface Rotary Switches

10 Amp., 600 Volts
Slotted Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE924	S	1	50	50	\$3.60

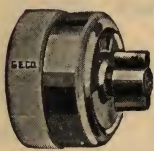


No. GE927 Double-pole Surface Rotary Switches

10 Amp., 600 Volts
Closed Base, Indicating

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE927	S	1	50	50	\$3.80

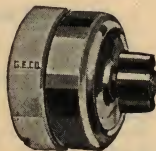


No. GE926 Double-pole Surface Rotary Switches

10 Amp., 600 Volts
Closed Base

Standard finish, polished nickel.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE926	S	1	50	50	\$3.60



G-E Porcelain Single-pole Combined Rotary Switches and Enclosed Fuse Cutouts

3 Amp., 600 Volts
Indicating-Slotted Base



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE116	S	1	25	50	\$3.00
27682	S	1	25	50	\$2.80

No. GE116

3 Amp., 600 Volts
Indicating-Slotted Base

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE933	S	1	25	60	\$3.40
61179	S	1	25	60	\$3.20

10 Amp., 600 Volts
Indicating-Slotted Base

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE626	S	1	25	65	\$3.60
GE627	S	1	25	65	\$3.40

No. GE933



3 Amp. Compound, 600 Volts
Slotted Base

Indicating-3 Amp., 600 Volts

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
88984	S	1	25	60	\$4.20

Indicating-10 Amps., 600 Volts

No. GE88984

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE628	S	1	25	65	\$4.50

G-E Porcelain Surface Rotary Switches

3 Amp., 600 Volts
Single-pole, Closed Base

Chocolate glazed finish.



Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
21645	S	1	20	15	\$1.20

Three-way, Closed Base

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
21644	S	1	20	15	\$1.52

G-E Porcelain Surface Rotary Switches

3 Amp., 600 Volts
Single-pole, Closed Base, Indicating

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE863	S	1	20	30	\$1.68

Single-pole, Closed Base

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
89595	S	1	20	30	\$1.48



No. GE929 Single-pole Porcelain Surface Rotary Switches

10 Amp., 600 Volts
Closed Base, Indicating

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE929	S	1	10	80	\$3.56



No. GE928 Single-pole Porcelain Surface Rotary Switches

10 Amp., 600 Volts
Closed Base

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE928	S	1	10	80	\$3.36



No. GE932 Double-pole Porcelain Surface Rotary Switches

10 Amp., 600 Volts
Closed Base, Indicating

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE932	S	1	10	90	\$4.12



No. GE931 Double-pole Porcelain Surface Rotary Switches

10 Amp., 600 Volts
Closed Base

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE931	S	1	10	90	\$3.92



No. 89596 Three-way G-E Porcelain Surface Rotary Switches

3 Amp., 600 Volts

Closed Base

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
89596	S	1	10	30	\$1.96



No. GE930 Three-way Porcelain Surface Rotary Switches

10 Amp., 600 Volts
Closed Base

Chocolate glazed finish.

Cat. No.	Sched-ule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE930	S	1	10	90	\$3.72





No. 235685 G-E Double-pole Panel Board Tumbler Switches



20 Amp., 250 Volts; 30 Amp., 125 Volts

Bakelite Top

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
235685	S	10	50	15	\$1.50

No. 223735 G-E Double-pole Panel Board Push Button Switches

20 Amp., 250 Volts; 30 Amp., 125 Volts

Black Porcelain Top

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
223735	S	10	50	15	\$1.50



No. 218910 G-E Double-pole Heavy Duty Tumbler Switches



30 Amp., 250 Volts; 60 Amp., 125 Volts
Compound Base

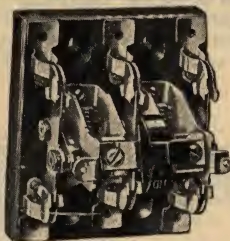
Binding Post Terminals

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
218910	S	1	20	20	\$3.70

No. 219529 G-E Triple-pole Heavy Duty Tumbler Switches

30 Amp., 250 Volts; 60 Amp., 125 Volts

Black Porcelain Base—Busbar Terminals



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
219529	S	1	20	20	\$5.00

G-E Small Motor Control Surface Rotary Switches

20 Amp., 250 Volts D. C.—2 H. P., 250 Volts;
1 H. P., 550 Volts
Closed Base, Indicating



No. GE150



No. 151394

Standard finish, black japan.

Triple-pole, Drawn Steel Cover

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE150	S	1	10	15	\$5.00

Triple-pole, Cast-iron Cover

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
151394	S	1	10	25	\$8.00

Four-pole, Cast-iron Cover

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
168241	S	1	10	25	\$12.00

No. 60598 G-E Lock Attachments For Rotary Switches with Handles, Tapped 8-32



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60598	S	10	100	5	\$.32

No. GE299 Lock Attachments For Rotary Switches with Handles, Tapped 10-32



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE299	S	10	100	6	\$.32

No. 60599 G-E Locking Keys For Nos. 60598 and GE299



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60599	S	10	100	2	\$.20

No. GE1733 Keys for Locking Tumbler Switches



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1733	S	10	100	2	\$.20

No. GE2250 Keys for Locking Push Switches and Locking Plugs



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE2250	S	10	100	2	\$.20

G-E Surface Rotary Switch Handles

For 5 and 10 Amp., 250-volt and 5 Amp.,
600-volt Rotary Switches—Tapped 8-32

No. 170717 Round Compound Handles



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
170717	S	10	100	10	\$.12

No. 170713 Winged Compound Handles



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
170713	S	10	100	10	\$.12

No. 170714 Winged Porcelain Handles



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
170714	S	10	100	10	\$.12



G-E Single-pole Automatic Door Switches

3-amp., 250 Volts; 6 Amp., 125 Volts



No. GE273

No. GE274

G-E Door Switches are designed for installation in the door jamb. As their name implies, they are operated automatically by the opening and closing of the door. Two different types are available, one which closes the circuit when the door is opened—for closets and similar places, and the other which closes the circuit when the door is closed—for telephone booths.

Neither the swelling nor shrinking of wooden doors, nor the slight loosening of the hinges affects the operation of G-E Door Switches, because the long plunger with ball-bearing tip automatically adjusts itself to all such variations. With each switch, a small oval bumper plate with holding screws is furnished to prevent the plunger from wearing a hole in the door.

G-E Door Switches will fit Sprague, No. 6597 Outlet Boxes.

Dimensions of door switch plates, $4\frac{5}{8} \times 1\frac{1}{4}$ inches.

Circuit Closed When Door Is Open					
Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE273	S	1	25	15	\$4.50
Circuit Closed When Door Is Closed					
GE274	S	1	10	6	\$4.50

G-E Surface Switch Covers

Metal Cover with Lining for 10-amp., 250 V., D.P.	each	\$.16
Allowance if without Cover and Lining	"	.06
Price, All Larger Metal Covers	"	.40
Allowance if without Covers	"	.16
Price, Porcelain Covers, Small Size	"	.20
Allowance if without Cover	"	.10
Price, Porcelain Covers, Large Size	"	.28
Allowance if without Cover	"	.14
Standard package: 50. Carton—10		

G-E Composition Balls and Linen Cord

For Ceiling and Surface Pull Switches
Schedule S

Price, Large Composition Pendent Cord Balls	each	\$.12
" " Size Black Linen Cord	per foot	.04

Carton: Balls, 50; Cord, 200 feet.

Standard package: Balls, 250; Cord, 1000 feet.

No. 60938 G-E Porcelain Sub-bases

For switches or receptacles not over $2\frac{1}{4}$ inches in diameter.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60938	G-1	10	250	55	\$.12

No. 60939 G-E Porcelain Sub-bases



For switches or receptacles not over $2\frac{5}{8}$ inches in diameter.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
60939	G-1	10	100	25	\$.16

No. GE761 Porcelain Sub-bases

For use with 20-ampere switches.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE761	G-1	5	25	10	\$.30



No. GE857 Single-pole Ceiling Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Slotted Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE857	S	10	30	30	\$2.00

No. GE248 Single-pole Ceiling Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Closed Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE248	S	10	30	30	\$2.00

No. GE859 Double-pole Ceiling Pull Switches

10 Amp., 250 Volts
Slotted Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE859	S	1	10	10	\$2.36

No. GE250 Double-pole Ceiling Pull Switches

10 Amp., 250 Volts
Closed Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE250	S	1	10	10	\$2.36

No. GE858 Three-way Ceiling Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Slotted Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE858	S	1	10	10	\$2.36

No. GE249 Three-way Ceiling Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Closed Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE249	S	1	10	10	\$2.36

No. GE1294 Single-pole Ceiling Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

$\frac{3}{4}$ and 4-Inch Box Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1294	S	1	10	15	\$2.50

No. GE1295 Double-pole Ceiling Pull Switches

10 Amp., 250 Volts

$\frac{3}{4}$ and 4-Inch Box Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1295	S	1	10	15	\$2.86

No. GE1296 Three-way Ceiling Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

$\frac{3}{4}$ and 4-Inch Box Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1296	S	1	10	15	\$2.86





No. GE137 Two-circuit Ceiling Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Slotted Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE137	S	1	10	10	\$2.36

No. GE136 Two-circuit Ceiling Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Closed Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE136	S	1	10	10	\$2.36

No. GE140 Three-circuit Ceiling Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Slotted Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE140	S	1	10	10	\$2.36

No. GE138 Three-circuit Ceiling Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Closed Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE138	S	1	10	10	\$2.36

No. GE1297 Two-circuit Ceiling Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

3/4 and 4-inch Box Base, Bottom Outlet
With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1297	S	1	5	10	\$2.86

No. GE1298 Three-circuit Ceiling Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
3/4 and 4-inch Box Base, Bottom Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1298	S	1	5	10	\$2.86



No. GE1170 Single-pole Surface Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Closed Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1170	S	10	30	30	\$2.00

No. GE1173 Single-pole Surface Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Slotted Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1173	S	10	30	30	\$2.00



No. GE1172 Double-pole Surface Pull Switches

10 Amp., 250 Volts
Closed Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1172	S	1	10	10	\$2.36

No. GE1175 Double-pole Surface Pull Switches

10 Amp., 250 Volts
Slotted Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1175	S	1	10	10	\$2.36

No. GE1171 Three-way Surface Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Closed Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1171	S	1	10	10	\$2.36

No. GE1174 Three-way Surface Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts
Slotted Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1174	S	1	10	10	\$2.36

No. GE1657 Two-circuit Surface Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Closed Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1657	S	1	10	10	\$2.36

No. GE1658 Two-circuit Surface Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Slotted Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1658	S	1	10	10	\$2.36

No. GE1659 Three-circuit Surface Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Closed Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1659	S	1	10	10	\$2.36

No. GE1660 Three-circuit Surface Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts
Slotted Base, Side Outlet

With 8-foot black ventilator cord. Standard finish, polished nickel.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1660	S	1	10	10	\$2.36



No. GE1662 Single-pole Surface Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1662	S	1	10	15	\$2.50

No. GE1664 Double-pole Surface Pull Switches

10 Amp., 250 Volts

GE1664	S	1	10	15	\$2.86
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No. GE1666 Three-way Surface Pull Switches

5 Amp., 250 Volts; 10 Amp., 125 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1666	S	1	10	15	\$2.86

No. GE1663 Two-circuit Surface Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1663	S	1	5	10	\$2.86

No. GE1670 Three-circuit Surface Pull Switches

2 Amp., 250 Volts; 5 Amp., 125 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1670	S	1	5	10	\$2.86

All the above switches have 3 1/4 and 4-inch box base, side outlet; furnished with 8-foot black ventilator cord. Standard finish, polished nickel.

Levolier Fixture Switches

6 Amperes, 125 Volts—3 Amperes, 250 Volts



Nos. 62 and 63 furnished with thin supporting nut and clamping nut. For use on canopies, ceiling units, etc., and may be assorted with No. 61 to make up a standard package.

Always place these switches where they will have a right angle pull.

They can be quickly installed and are out of the way.

No. 60 is replaced by No. 61 but will be supplied when specified. It has 5/8-inch diameter nipple, 1/8-inch long. Same price as No. 61.

Cat. No.	Stem Diam.	Stem Length	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61	7/16 in.	3/8 in.	10	100	18	\$.55
62	7/16 "	3/8 "	10	100	16	.60
63	7/16 "	3/4 "	10	100	17	.60

P & S Canopy Switches

Schedule XA

P & S 3300, 3301, 3302 and 3303 may be assorted to make standard package quantities.

The stem on P & S 3300 and 3302 is of sufficient length to use with canopies not more than 1/8-inch thick. P & S 3301 and 3303 may be used with canopies up to 1/4-inch thick. Fitted with 6 inches of No. 18 B & S stranded fixture wire. Longer wires furnished specially at \$.04 1/2 per foot each conductor.



With Bottom Wires

Cat. No.	For Canopies Thick in.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
3300	1/16	10	100	14	\$.60
3301	1/4	10	100	15	.65
3302	1/16	10	100	14	\$.60
3303	1/4	10	100	15	.65

With Side Wires



No. GE778 Fluted-catch Pull Switch Bodies

Bottom Chain Outlet

Furnished with short chain, 6-foot black linen cord, and adjustable compound ball. Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE778	S	10	100	25	\$1.06

No. GE776 Fluted-catch Pull Switch Bodies

Side Chain Outlet

Furnished with short chain, 6-foot black linen cord, and adjustable compound ball. Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE776 G (Class 1)	10	50	15		\$1.06



No. GE777 Fluted-catch Rosette Pull Switch Bodies

Side Chain Outlet

Furnished with short chain, 6-foot black linen cord, and adjustable compound ball. Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE777 G (Class 1)	10	100	25		\$1.06

No. GE749 Fluted-catch Socket Caps

1/8-inch Female Thread

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE749	B	25	500	30	\$1.14

No. GE750 Fluted-catch Socket Caps

1/4-inch Female Thread

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE750	B	25	100	10	\$.32



No. GE751 Fluted-catch Socket Caps

3/8-inch Female Thread

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE751	B	25	250	20	\$.26



No. GE1265 Fluted-catch Socket Caps

1/2-inch Female Thread

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1265	B	25	50	6	\$.38



No. GE752 Fluted-catch Socket Caps

3/8-inch Male Thread

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE752	B	25	100	10	\$.32





No. GE757 Fluted-catch Pendent Caps

With Moulded Compound Bushing and Auxiliary Bushing

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE757	B	25	500	25	\$.14



No. GE1612 Fluted-catch Strain Relief Pendent Caps

With Porcelain Bushing, 13/32-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1612	B	25	500	35	\$.14

No. GE1613 Fluted-catch Strain Relief Pendent Caps

With Porcelain Bushing, 1/2-inch Hole

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1613	B	25	100	10	\$.14

No. GE764 Fluted-catch Socket Caps

1/8-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE764	B	25	100	10	\$.42

No. GE765 Fluted-catch Socket Caps

1/4-inch 90° Angle

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE765	B	25	50	5	\$.50



No. GE766 Fluted-catch Socket Caps

3/8-inch 90° Angle

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE766	B	25	50	5	\$.48

No. GE784 Fluted-catch Small Exposed Socket Bases



Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE784	B	10	250	55	\$.36

No. GE974 Fluted-catch Small Exposed Slotted Socket Bases



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE974	B	10	250	55	\$.36

No. GE793 Fluted-catch Cleat Socket Bases



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE793	B	10	250	35	\$.46

No. GE786 Fluted-catch Small Concealed Socket Bases



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE786	B	10	250	60	\$.56

No. GE794 Fluted-catch 3 1/4-inch Box Insulated Socket Bases

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE794	B	5	100	65	\$.74



No. GE795 Fluted-catch 4-inch Box Insulated Socket Bases

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE795	B	5	100	115	\$ 1.34

No. GE1800 Deep All-metal Bases for All Outlets

Standard finish, brush brass.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1800	B	1	100	60	\$ 1.34



No. GE1801 Sherardized Adapters

Supports No. GE1800 Receptacles when used on a 3 1/4-inch shallow plate fixture stud.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1801	B	50	50	10	\$.12

No. GE1802 Sherardized Adapters

Supports No. GE1800 Receptacles when used in deep outlet boxes with 3/8-inch fixture stud.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1802	B	50	50	12	\$.14



No. GE1803 Sherardized Adapters

Supports No. GE1800 Receptacles when used in shallow outlet boxes with 3/8-inch fixture stud.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1803	B	50	50	12	\$.14

No. GE1804 Sherardized Adapters

Supports No. GE1804 Receptacles on 3 1/4-inch and 4-inch outlet box covers.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1804	B	50	50	14	\$.12



No. GE558 Single-pole Pendent Push-through Switches

3 Amp. 250 Volts; 6 Amp., 125 Volts

Pendent Cap

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE558	G (Class 1)	10	100	35	\$1.00

No. GE559 Single-pole Pendent Push-through Switches

3 Amp., 250 Volts; 6 Amp., 125 Volts

1/8-Inch Cap

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE559	G (Class 1)	10	100	35	\$1.00

No. GE562 Single-pole Pendent Push-through Switches

3 Amp., 250 Volts; 6 Amp., 125 Volts

3/8-Inch Cap

Standard finish, brush brass.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE562	G (Class 1)	10	100	40	\$1.20

No. GE683 Single-pole Porcelain Pendent Push-through Switches

3 Amp., 250 Volts; 6 Amp., 125 Volts

Pendent Cap



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE683	G (Class 1)	10	100	40	\$.80

No. GE565 Single-pole Through Cord Push-through Switches

3 Amp., 250 Volts; 6 Amp., 125 Volts

Moulded Compound Bushing

1 1/32-Inch Cord Holes

Standard finish, polished nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE565	G (Class 1)	10	50	15	\$1.20

No. GE1584 Single-pole Through Cord Tumbler Switches

3 Amp., 250 Volts; 6 Amp., 125 Volts

Moulded Compound
3/32-Inch Cord Holes



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1584	G (Class 1)	10	50	15	\$.80

No. GE1301 Single-pole Through Cord Tumbler Switches

3 Amp., 250 Volts; 6 Amp., 125 Volts

Moulded Compound
1 1/32-Inch Cord Holes



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1301	G (Class 1)	10	50	15	\$.80

No. 189410 G-E Single-pole Handle Rotary Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts
Threaded Shaft and Fibre Casing



Quick make and break mechanism.

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
189410	S	10	100	18	\$.84

No. GE1169 Single-pole Hand Tumbler Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Compound, Round Body, Thumb Button Operation

Quick make and break mechanism.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1169	S	10	100	20	\$.85

No. GE1355 Single-pole Handle Tumbler Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Compound, Rectangular Body, Thumb Button Operation

Quick make and break mechanism.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1355	S	10	100	15	\$.85

No. GE1421 Single-pole Handle Tumbler Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Compound Rectangular Body, Thumb Trigger Operation

Quick make and break mechanism.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1421	S	10	100	15	\$.85

No. GE1299 Single-pole Flush Miniature Tumbler Switches

3 Amp., 250 Volts; 5 Amp., 125 Volts

Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1299	S	10	100	15	\$.85



No. GE1300 Single-pole Miniature Flush Switch Plates

Standard finish, frosted nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1300	S	25	100	10	\$.20

No. GE1372 Two-gang Miniature Flush Switch Plates

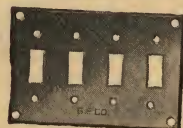
Standard finish, frosted nickel.



Cat. No.	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1372	S	10	50	10	\$.40

G-E 3 and 4-gang Miniature Flush Switch Plates

Standard finish, frosted nickel.

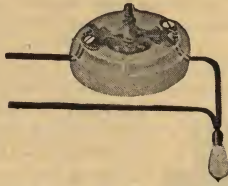


Cat. No.	No. in, Gang	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE1373	3	S	5	25	12	\$.60
GE1374	4	S	1	10	10	.80



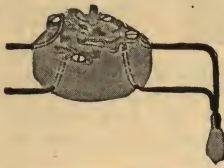
G-E Surface Switch Wiring Diagrams

Single-pole Switches



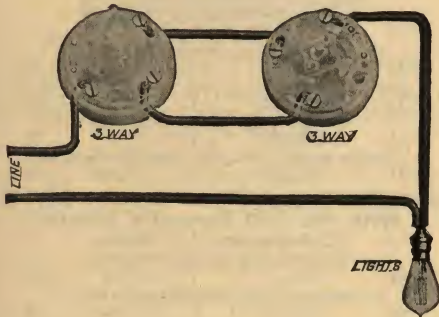
For controlling lights from one point—breaking one side of line.

Double-pole Switches



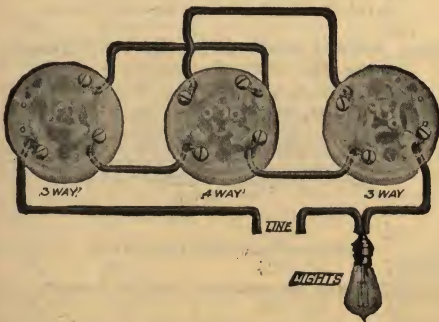
For controlling lights from one point—breaking both sides of the line.

Three-way Switches



To be used where it is desirable to control lights from two different points, e.g., a hall light to be controlled from the lower hall and upper hall or sleeping room.

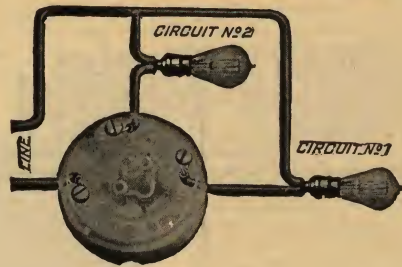
Three-way and Four-way Switches



For controlling lights from three different points. For each additional control point desired, an additional four-way switch should be inserted between the two outside three-way switches.

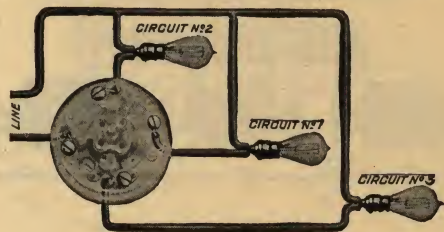
G-E Surface Switch Wiring Diagrams

Two-circuit Electrolier Switches



- 1st. Position—Circuit No. 1.
- 2nd. Position—Circuit No. 2.
- 3rd. Position—Circuits Nos. 1 and 2.
- 4th. Position—All Circuits off.

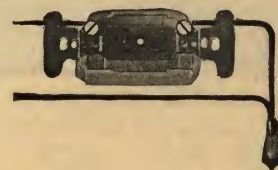
Three-circuit Electrolier Switches



- 1st. Position—Circuit No. 1.
- 2nd. Position—Circuits Nos. 1 and 2.
- 3rd. Position—Circuits Nos. 1, 2 and 3.
- 4th. Position—All Circuits off.

G-E Flush Switch Wiring Diagrams

Single-pole Switches



For controlling lights from one point—breaking one side of the line.

Double-pole Switches

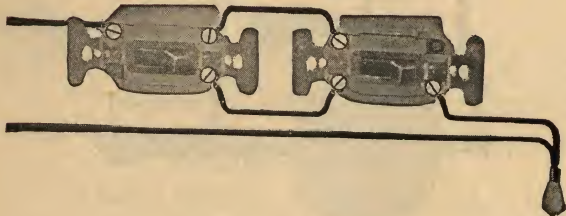


For controlling lights from one point—breaking both sides of the line.



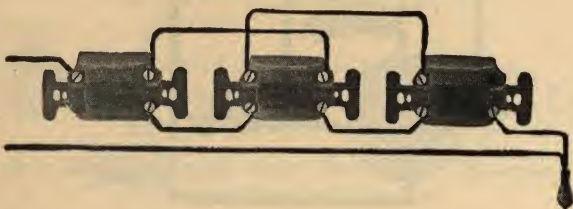
G-E Flush Switch Wiring Diagrams

Three-way Switches



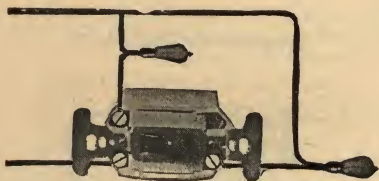
To be used where it is desirable to control lights from two different points, e. g., a hall light to be controlled from the lower hall and upper hall or sleeping room.

Three-way and Four-way Switches



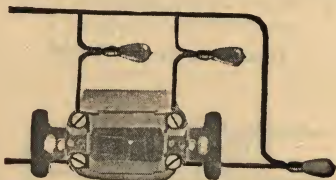
For controlling lights from three different points. For each additional control point desired, an additional four-way switch should be inserted between the two outside three-way switches.

Two-circuit Electroliner Switches



- 1st Position—Circuit No. 1.
- 2nd Position—Off.
- 3rd Position—Circuits Nos. 1 and 2.
- 4th Position—All Circuits off.

Three-circuit Electroliner Switches



- 1st Position—Circuit No. 1.
- 2nd Position—Off.
- 3rd Position—Circuits Nos. 1 and 2.
- 4th Position—Off.
- 5th Position—Circuits Nos. 1, 2 and 3.
- 6th Position—All Circuits off.

Perkins Rotary Panel Switches

Single-pole Fusing

Each branch is fitted with a double-pole switch, which is mounted on a separate base and may be removed without disturbing either main or branch connections. On special order, switches will be fitted with expulsion type mechanisms for inductive loads at an additional list price of 30 cents per branch.

These switches may be installed in any standard cabinet having a minimum depth of 3 inches. Gutter cabinets may be specified to the exact size of the switch bases, as there is $\frac{1}{2}$ inch of insulation outside of all current carrying parts as required.

One plug fuse receptacle or clips for one cartridge fuse are omitted from one side of the line in each branch. This unfused side should always be the grounded side of the line.

The catalogue numbers of panel switches with fuse omitted from one side of the line in each branch, are the same as similar panel

switches with two fuses in each branch, except that the numeral 0 is added between the second and third figures.

Can be converted into lock switches by removing the handles and substituting Cat. No. 2384 universal rotary switch lock attachment.

With One Plug Fuse Receptacle in Each Branch
***With Safety Dead Front Covers and No. 2778 Composition Handle**

10 Amperes, 125 Volts



Cat. No.		Sched-ule		Dimensions Inches		Car-ton Pkg.		Std. Pkg.		Wt., Lbs. Std. Pkg.		Price Each	
25098		H		6 $\frac{3}{8}$ x3		1		10		31		\$2.00	
25099		H		10 $\frac{1}{2}$ x3		1		10		45		\$3.00	
26000		H		11 $\frac{5}{8}$ x3		1		10		50		\$3.25	

With Open Fronts and White Enamel Switch Covers
With No. 2781 Porcelain Handle

10 Amperes, 125 Volts

Cat. No.		Sched-ule		Dimensions Inches		Car-ton Pkg.		Std. Pkg.		Wt., Lbs. Std. Pkg.		Price Each	
24000		H		6 $\frac{3}{8}$ x3		1		10		30		\$1.60	
23000		H		10 $\frac{1}{2}$ x3		1		10		43		\$2.75	
23060		H		11 $\frac{5}{8}$ x3		1		10		47		\$3.00	

With Clips for One Cartridge Fuse in Each Branch
***With Safety Dead Front Covers and No. 2778 Composition Handle**

10 Amperes, 250 Volts

Cat. No.		Sched-ule		Dimensions Inches		Car-ton Pkg.		Std. Pkg.		Wt., Lbs. Std. Pkg.		Price Each	
26087		H		7 $\frac{7}{8}$ x3		1		10		40		\$2.25	
26088		H		12 $\frac{7}{8}$ x3		1		10		58		\$4.50	
26089		H		14 x3		1		10		63		\$5.00	

With Open Fronts and White Enamel Switch Covers
with No. 2781 Porcelain Handle
10 Amperes, 250 Volts



Cat. No.		Sched-ule		Dimensions Inches		Car-ton Pkg.		Std. Pkg.		Wt., Lbs. Std. Pkg.		Price Each	
25034		H		7 $\frac{7}{8}$ x3		1		10		35		\$2.00	
25035		H		12 $\frac{7}{8}$ x3		1		10		56		\$3.75	
25034		H		14 x3		1		10		59		\$4.25	

*The covers of these switches are steel, lined with insulating material. Each cover has an overhanging edge which engages with the cover of the adjoining switch.

†Orders will regularly be filled with switches having glossy black covers. White enamel covers will be supplied, without extra charge. All other finishes on covers, add to price, 50 cents each.



Perkins Rotary Panel Switches

Double-pole Fusing



These switches may be installed in any standard cabinet having a minimum depth of 3 inches. Gutter cabinets may be specified to the exact size of the switch bases, as there is 1/2 inch of insulation outside of all current carrying parts as required.

Can be converted into lock switches by substituting, for the handles No. 2384 Universal Lock Attachments.

With Connections for 2 Plug Fuses in Each Branch
*With Safety Dead Front Covers and No. 2778

Composition Handle
10 Amperes, 125 Volts



No. 2600

Double-pole, Single-branch

Cat. No.	Sched-ule	Dimensions Inches	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2598	H	6 5/8 x 3	1	10	31	\$2.00
2599	H	10 1/2 x 3	1	10	45	\$3.00
2600	H	11 5/8 x 3	1	10	50	\$3.25

With Open Fronts and White Enamel Switch Covers
Wth No. 2781 Porcelain Handle

10 Amperes, 250 Volts

2400	H	6 5/8 x 3	1	10	30	\$1.60
2300	H	10 1/2 x 3	1	10	43	\$2.75
2360	H	11 5/8 x 3	1	10	47	\$3.00

With Connections for 2 Cartridge Fuses in Each Branch
*With Safety Dead Front Covers and No. 2778

Composition Handle

10 Amperes, 250 Volts

Double-pole, Single-branch

Cat. No.	Sched-ule	Dimensions Inches	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2687	H	7 1/8 x 3	1	10	40	\$2.25
2688	H	12 1/8 x 3	1	10	58	\$4.50
2689	H	14 x 3	1	10	63	\$5.00

With Open Fronts and White Enamel Switch Covers
With No. 2781 Porcelain Handle

10 Amperes, 250 Volts



No. 2535

Double-pole, Single-branch

2534	H	7 1/8 x 3	1	10	35	\$2.00
2535	H	12 1/8 x 3	1	10	56	\$3.75
2536	H	14 x 3	1	10	59	\$4.25

*The covers of these switches are steel, lined with insulating material. Each cover has an overhanging edge which engages with the cover of the adjoining switch.

†Orders will regularly be filled with switches having glossy black covers. White enamel covers will be supplied, when specified, without extra charge. All other finishes on covers, add to price, 50 cents each.

Double-pole Switch Mechanisms

Only

Indicating, for Rotary Panel Switches

20 Amperes, 125 Volts

10 Amperes, 250 Volts

Rotary, without Handle

Cat. No.	Sched-ule	Dimensions Inches	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2595	H	....	10	10	4	\$.71
2794	H	....	10	10	5	\$1.01



No. 2595

Perkins Push Panel Switches

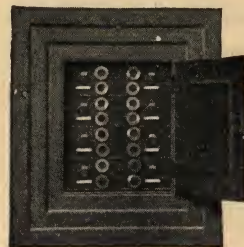
Each branch is fitted with a double pole switch, which is mounted on a separate base and may be removed without disturbing either main or branch connections.

These switches may be installed in any standard cabinet having a minimum depth of 3 inches. Gutter cabinets may be specified to the exact size of the switch bases as there is 1/2-inch of insulation outside of all current carrying parts.

The covers of these switches are steel, lined with insulating material. Each cover has an overhanging edge which engages with the cover of the adjoining switch, thereby effectively preventing accidental contact with any live parts.

Orders will be filled with switches having glossy black covers.

White enamel covers will be supplied when specified without extra charge. All other finishes on covers, add 50 cents to list.



With Connections for Plug Fuses
With Safety Covers—Dead Front



10 Amperes, 125 Volts

Double-pole, Single Branch

Cat. No.	Sched-ule	Dimensions Inches	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2698	H2	6 5/8 x 3	1	10	31	\$2.25
2699	H2	10 1/2 x 3	1	10	47	\$3.50
2700	H2	11 5/8 x 3	1	10	50	\$3.75

20 Amperes, 125 Volts

Double-pole, Single Branch

2723	H2	6 5/8 x 3	1	10	30	\$2.50
2724	H2	10 1/2 x 3	1	10	47	\$4.00
2725	H2	11 5/8 x 3	1	10	49	\$4.25

With Connections for Cartridge Fuses
With Safety Covers—Dead Front



10 Amperes, 250 Volts

Double-pole, Single Branch

Cat. No.	Sched-ule	Dimensions Inches	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2684	H2	7 1/8 x 3	1	10	35	\$2.50
2685	H2	12 1/8 x 3	1	10	59	\$4.75
2686	H2	14 x 3	1	10	61	\$5.25

20 Amperes, 250 Volts

Double-pole, Single Branch

2726	H2	7 1/8 x 3	1	10	35	\$2.50
2727	H2	12 1/8 x 3	1	10	58	\$4.75
2728	H2	14 x 3	1	10	60	\$5.25

Switch Mechanisms Only
For Push Panel Switches



Cat. No.	Sched-ule	Amperes	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2523	H2	10	10	50	12	\$.80
2729	H2	20	10	50	12	1.05



Nos. 35367 and 42869 G-E Entrance Switches Double Pole Fuses at Hinge End

3-30 Amp., 125 Volts

Schedule G Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
35367	1	100	190	\$1.80

Double Pole Fuses at Handle End

42869	1	100	190	1.80
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No. 35368 G-E Entrance Switches

Triple Pole Fuses at Hinge End

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
35368	1	50	140	\$2.80



No. 42978 G-E Entrance Switches

Triple Pole Fuses at Handle End

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42978	1	50	140	\$2.80



Nos. 42689 and 42688 G-E Branch Switches Two to Two Wire, Single Branch Mains Vertical

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42689	1	100	290	\$3.00

Mains Horizontal

42688	1	100	210	\$3.00
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No. 42423 G-E Branch Switches

Two to Two Wire, Double Branch Mains Vertical

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42423	1	50	210	\$6.80



No. 42422 G-E Branch Switches

Two to Two Wire, Double Branch Mains Horizontal

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42422	1	50	240	\$6.80



No. 42425 G-E Branch Switches

Three to Two Wire, Double Branch Mains Vertical

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42425	1	50	245	\$7.20



No. 42424 G-E Branch Switches

Three to Two Wire, Double Branch

Mains Horizontal

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42424	1	50	220	\$7.20



G-E Standard Fuse Plugs

National Electrical Code Standard
Schedule G Class 3

The G-E Standard Fuse Plugs are of two-piece construction. The screw shell is fastened in place by means of a bottom porcelain button which prevents the screw shell working loose and breaking the circuit. It also makes it possible to remove the fuse plug intact even if firmly seated in the cutout.

Standard package, 500. Pkg. weight, 45 pounds:

Cat. No.	Cap. Amp.	Car-ton	Price Each	Cat. No.	Cap. Amp.	Car-ton	Price Each
66327	3	50	\$.14	66335	15	50	\$.14
66329	6	50	.14	66337	20	50	.14
66331	10	50	.14	66339	25	50	.14
66333	12	50	.14	66341	30	50	.14

G-E Locking Plugs

National Electrical Code Standard
Schedule G Class 1

These plugs are furnished in two types one to lock circuit open, central station wishes to temporarily discontinue furnishing current and one to lock circuit closed, making triple-pole cutouts meet the electrical code requirements that on three-wire grounded service the neutral be unfused.

Screwed into cutout in usual manner until firmly seated. Teeth of locking ratchet do not engage during operation. When an attempt is made to remove the plug without the key, the teeth of the locking ratchet engage and prevent removal.

No. GE892 Locking Plugs Lock Circuit Open

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE892	50	100	14	\$.30



No. GE2250 Keys for Locking Plugs

Schedule G

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE250	10	100	2	\$2.20



No. GE893 Locking Plugs Lock Circuit Closed

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE893	50	100	15	\$.30



G-E Renewable Fuse Plug Casings

Schedule F Class 4

For 0-30 Amp. 125-volt Enclosed Fuses

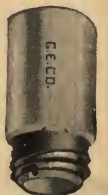
Medium Screw Base

Cat. No.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36093	10	100	15	\$.36

For 31-60 Amp. 250-volt Enclosed Fuses

Mogul Screw Base

36094	10	100	50	\$.72
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H & H Fuse Plugs

Schedule F

125 Volts



This Plug is renewable, it is only necessary to insert a new core. There is no metal to touch. As the old style flaring top has been done away with, there is plenty of room between the plugs to get a grip with the fingers.

COMPLETE PLUGS			RENEWABLE CORES		
Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
66-327	3	\$.07	FC327	3	\$.04
66-329	6	.07	FC329	6	.04
66-331	10	.07	FC331	10	.04
66-333	12	.07	FC333	12	.04
66-335	15	.07	FC335	15	.04
66-337	20	.07	FC337	20	.04
66-339	25	.07	FC339	25	.04
66-341	30	.07	FC341	30	.04



No. 62569 G-E Fuse Plug Cutouts



Single Pole, Main Line

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62569	10	150	60	\$.48

No. 62965 G-E Fuse Plug Cutouts

Double Pole, Main Line

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62965	10	150	95	\$.64



Nos. 62165 and 179796 G-E Fuse Plug Cutouts

3-30 Amp., 125 Volts

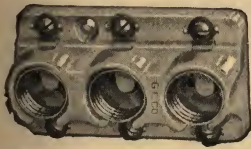
Schedule G Class 2

Triple Pole, Main Line

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62165	5	100	100	\$1.10

Triple Pole, Main Line
with Solid Neutral

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
179796	5	100	105	\$1.10



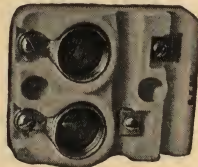
No. 61935 G-E Fuse Plug Cutouts

Two Wire, Single Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61935	5	100	100	\$.70



No. 8042 G-E Fuse Plug Cutouts

Three Wire, Single Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
8042	1	75	165	\$1.40



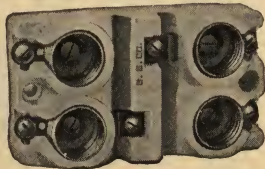
No. 62587 G-E Fuse Plug Cutouts

Two Wire, Double Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62587	5	100	180	\$1.24



No. 62199 G-E Fuse Plug Cutouts

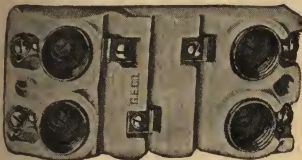
Three to Two Wire

Double Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62199	5	100	210	\$1.36



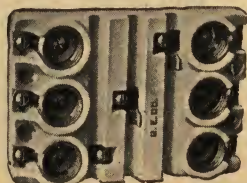
No. 62135 G-E Fuse Plug Cutouts

Three Wire, Double Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62135	1	50	165	\$1.88



No. 36537 G-E Fuse Plug Cutouts with Cover



Double Pole, Main Line

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36537	10	150	200	\$.72

No. 36538 G-E Fuse Plug Cutouts with Cover

Triple Pole, Main Line

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36538	5	100	190	\$1.22



No. 36539 G-E Fuse Plug Cutouts with Cover



Two Wire, Single Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36539	5	100	200	\$.88

No. 36540 G-E Fuse Plug Cutouts with Cover

Three Wire, Single Branch

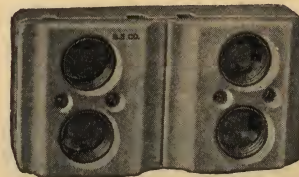
3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36540	1	75	250	\$1.88



No. 36543 G-E Fuse Plug Cutouts with Cover



Two Wire, Double Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36543	5	100	365	\$1.62

No. 36541 G-E Fuse Plug Cutouts with Cover

Three to Two Wire,
Double Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36541	5	100	200	\$1.76



No. 36542 G-E Fuse Plug Cutouts with Cover



Three to Three Wire,
Double Branch

3-30 Amp., 125 Volts

Schedule G Class 2

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36542	1	50	255	\$2.72

**No. 36802 G-E Enclosed Fuse Cutouts**

Single Pole, Main Line

1-30 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
36802	5	50	30	\$.80

No. 189666 G-E Enclosed Fuse Cutouts

Single Pole, Main Line with Barriers

1-30 Amp., 250 Volts

Schedule F Class 2



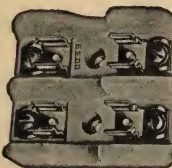
Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
189666	5	50	30	\$.80

No. 34367 G-E Enclosed Fuse Cutouts

Double Pole, Main Line

1 to 30 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34367	5	50	55	\$1.10

No. 34372 G-E Enclosed Fuse Cutouts

Triple Pole, Main Line

1-30 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34372	5	50	65	\$1.60

No. 34368 G-E Enclosed Fuse Cutouts

Two Wire, Single Branch

1-30 Amp., 250 Volts

Schedule F Class 2



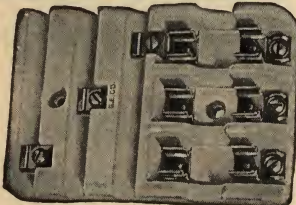
Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34368	5	50	75	\$1.40

No. 34373 G-E Enclosed Fuse Cutouts

Three Wire, Single Branch

1-30 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34373	1	50	170	\$2.70

No. 34369 G-E Enclosed Fuse Cutouts

Two Wire, Double Branch

1-30 Amp., 250 Volts

Schedule F Class 2



Standard package, 25; carton, 1.

Cat. No.	Wt. Lbs. Std. Pkg.	Price Each
34369	60	\$2.60

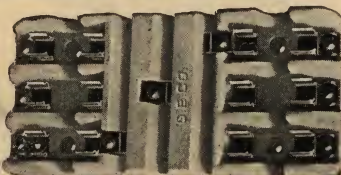
No. 34374 G-E Enclosed Fuse Cutouts

Three Wire, Double Branch

1-30 Amp., 250 Volts

Schedule F Class 2

Standard package, 25; carton, 1.



Cat. No.	Wt. Lbs. Std. Pkg.	Price Each
34374	135	\$4.50

No. 34370 G-E Enclosed Fuse Cutouts

Three to Two Wire, Double Branch

1-30 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Std. Pkg., 25.	Carton, 1.	Price Each
34370	80		\$3.00

No. 36803 G-E Enclosed Fuse Cutouts

Single Pole, Main Line

31-60 Amp., 250 Volts

Schedule F Class 2



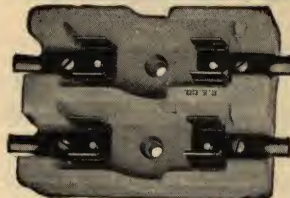
Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
36803	5	50	40	\$1.30

No. 34376 G-E Enclosed Fuse Cutouts

Double Pole, Main Line

31-60 Amp., 250 Volts

Schedule F Class 2



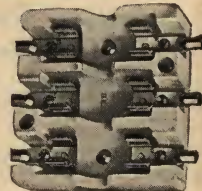
Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34376	1	50	145	\$2.80

No. 34377 G-E Enclosed Fuse Cutouts

Triple Pole, Main Line

31-60 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34377	1	50	185	\$4.00

No. 34378 G-E Enclosed Fuse Cutouts

Two Wire, Single Branch

31-60 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Std. Pkg., 50.	Price Each
34378	205	\$3.50

No. 34379 G-E Enclosed Fuse Cutouts

Three Wire, Single Branch

31-60 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
34379	1	25	200	\$6.00

No. 36806 G-E Enclosed Fuse Cutouts

Two Wire, Double Branch

31-60 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
36806	1	25	200	\$7.00

No. 36804 G-E Enclosed Fuse Cutouts

Three Wire, Double Branch

31-60 Amp., 250 Volts

Schedule F Class 2



Cat. No.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
36804	1	10	120	\$12.00



No. 36805 G-E Enclosed Fuse Porcelain Cutouts

Three to Two Wire, Double Branch
31-60 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36805	1	25	210	\$8.40

No. 36801 G-E Enclosed Fuse Porcelain Cutouts

Double Pole
61-100 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36801	1	50	255	\$5.60

No. 34964 G-E Enclosed Fuse Porcelain Cutouts

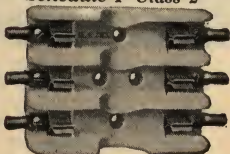
Single Pole
61-100 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
34964	1	50	95	\$2.80

No. 36800 G-E Enclosed Fuse Porcelain Cutouts

Triple Pole
61-100 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36800	1	25	185	\$8.00

No. 34971 G-E Enclosed Fuse Cutouts

Slate Base—Single Pole
101-200 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
34971	1	25	220	\$4.20

No. 34982 G-E Enclosed Fuse Cutouts

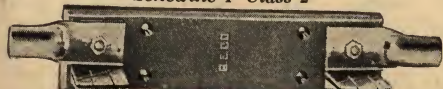
Slate Base—Single Pole
201-400 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
34982	1	25	185	\$10.50

No. 36471 G-E Enclosed Fuse Cutouts

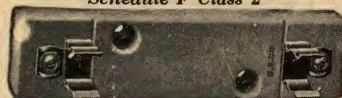
Slate Base—Single Pole
401-600 Amp., 250 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36471	1	10	125	\$14.40

No. 34991 G-E Enclosed Fuse Cutouts

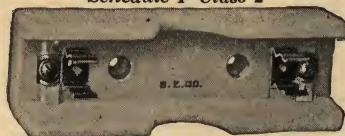
Single Pole
1-30 Amp., 600 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
34991	5	50	65	\$1.20

No. 189667 G-E Enclosed Fuse Cutouts

Single Pole with Barriers
1-30 Amp., 600 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
189667	5	50	145	\$1.20

No. 35101 G-E Enclosed Fuse Cutouts

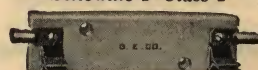
Single Pole
31-60 Amp., 600 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
35101	5	50	80	\$1.80

No. 21474 G-E Enclosed Fuse Cutouts

Single Pole
61-100 Amp., 600 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
21474	1	50	135	\$3.50

No. 35114 G-E Enclosed Fuse Cutouts

Slate Base—Single Pole
101-200 Amp., 600 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
35114	1	50	260	\$4.60

No. 35125 G-E Enclosed Fuse Cutouts

Slate Base—Single Pole
201-400 Amp., 600 Volts
Schedule F Class 2



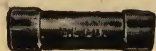
Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
35125	1	25	230	\$12.00

No. 36479 G-E Enclosed Fuse Cutouts

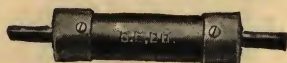
Slate Base—Single Pole
401-600 Amp., 600 Volts
Schedule F Class 2



Cat. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
36479	1	10	135	\$15.60

**G-E Enclosed Fuses***National Electrical Code Standard***1 to 60 Amperes, 250 Volts***Schedule F Class 1***Ferrule Contact**

CATALOGUE NUMBER		Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	PRICE, EACH	
Non-indi-cating	Indi-cating					Non-indicating	Indicating
59950	.....	1	100	10	5	\$.20	\$.20
59951	.....	2	100	10	5	.20	.20
GE1454	34949	3	100	10	5	.20	.20
*GE1455	*59379	4	100	10	5	.20	.20
GE1456	34950	5	100	10	5	.15	.20
GE1457	59380	6	100	10	5	.15	.20
*GE1458	*59381	7	100	10	5	.15	.20
*GE1459	*34951	8	100	10	5	.15	.20
*GE1460	*59382	9	100	10	5	.15	.20
GE1461	34952	10	100	10	5	.15	.20
GE1462	34953	12	100	10	5	.15	.20
GE1463	34954	15	100	10	5	.15	.20
GE1464	34955	20	100	10	5	.15	.20
GE1465	34956	25	100	10	5	.15	.20
GE1466	34957	30	100	10	5	.15	.20
GE1467	34958	35	100	10	10	.30	.30
GE1468	34959	40	100	10	10	.30	.30
GE1469	34960	45	100	10	10	.30	.30
GE1470	34961	50	100	10	10	.30	.30
*GE1471	*34962	55	100	10	10	.30	.30
GE1472	34963	60	100	10	10	.30	.30

G-E Enclosed Fuses*National Electrical Code Standard***65 to 600 Amperes, 250 Volts***Schedule F Class 1***Knife Blade Contact**

CATALOGUE NUMBER		Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each	Refilling Price
Non-indi-cating	Indi-cating						
*GE1473	*34965	65	50	5	20	\$.90	\$.60
*GE1474	*34966	70	50	5	20	.90	.60
GE1475	34967	75	50	5	20	.90	.60
GE1476	34968	80	50	5	20	.90	.60
GE1477	34969	90	50	5	20	.90	.60
GE1478	34970	100	50	5	20	.90	.60
*GE1479	*34972	110	25	1	25	2.00	.90
*GE1480	*34973	120	25	1	25	2.00	.90
*GE1481	*34974	130	25	1	25	2.00	.90
*GE1482	*34975	140	25	1	25	2.00	.90
GE1483	34976	150	25	1	25	2.00	.90
*GE1484	*34977	160	25	1	25	2.00	.90
*GE1485	*34978	170	25	1	25	2.00	.90
*GE1486	*34979	180	25	1	25	2.00	.90
*GE1487	*34980	190	25	1	25	2.00	.90
GE1488	34981	200	25	1	25	2.00	.90
*GE1489	*34983	225	25	1	50	3.60	1.50
*GE1490	*34984	250	25	1	50	3.60	1.50
*GE1491	*34985	275	25	1	50	3.60	1.50
GE1492	34986	300	25	1	50	3.60	1.50
*GE1493	*34987	325	25	1	50	3.60	1.50
*GE1494	*34988	350	25	1	50	3.60	1.50
*GE1495	*34989	375	25	1	50	3.60	1.50
GE1496	34990	400	25	1	50	3.60	1.50
*GE1497	*36472	425	10	1	35	5.50	2.00
*GE1498	*36473	450	10	1	35	5.50	2.00
*GE1499	*36474	475	10	1	35	5.50	2.00
GE1500	36475	500	10	1	35	5.50	2.00
*GE1501	*36476	525	10	1	35	5.50	2.00
*GE1502	*37754	550	10	1	35	5.50	2.00
*GE1503	*36477	575	10	1	35	5.50	2.00
GE1504	36478	600	10	1	35	5.50	2.00

*Can be furnished, but is not carried in stock by manufacturer.

G-E Enclosed Fuses*National Electrical Code Standard***1 to 60 Amperes, 600 Volts***Schedule F Class 1***Ferrule Contact**

CATALOGUE NUMBER		Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
Non-indi-cating	Indi-cating					
42638	.....	1	100	10	15	\$.40
42639	.....	2	100	10	15	.40
GE1505	34992	3	100	10	15	.40
*GE1506	*59383	4	100	10	15	.40
*GE1507	*34993	5	100	10	15	.40
GE1508	59384	6	100	10	15	.40
*GE1509	*59385	7	100	10	15	.40
*GE1510	*34994	8	100	10	15	.40
*GE1511	*59386	9	100	10	15	.40
GE1512	34995	10	100	10	15	.40
*GE1513	*34996	12	100	10	15	.40
GE1514	34997	15	100	10	15	.40
GE1515	34998	20	100	10	15	.40
GE1516	34999	25	100	10	15	.40
GE1517	35100	30	100	10	15	.40
GE1518	35102	35	100	10	30	.60
GE1519	35103	40	100	10	30	.60
*GE1520	*35104	45	100	10	30	.60
GE1521	35105	50	100	10	30	.60
*GE1522	*35106	55	100	10	30	.60
GE1523	35107	60	100	10	30	.60

G-E Enclosed Fuses*National Electrical Code Standard***65 to 600 Amperes, 600 Volts***Schedule F Class 1***Knife Blade Contact**

CATALOGUE NUMBER		Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each	Refilling Price
Non-indi-cating	Indi-cating						
GE1524	35108	65	50	5	32	\$ 1.50	\$.80
*GE1525	*35109	70	50	5	32	1.50	.80
GE1526	35110	75	50	5	32	1.50	.80
GE1527	35111	80	50	5	32	1.50	.80
GE1528	35112	90	50	5	32	1.50	.80
GE1529	35113	100	50	5	32	1.50	.80
*GE1530	*35115	110	25	1	40	2.50	1.20
*GE1531	*35116	120	25	1	40	2.50	1.20
*GE1532	*35117	130	25	1	40	2.50	1.20
*GE1533	*35118	140	25	1	40	2.50	1.20
GE1534	35119	150	25	1	40	2.50	1.20
*GE1535	*35120	160	25	1	40	2.50	1.20
*GE1536	*35121	170	25	1	40	2.50	1.20
*GE1537	*35122	180	25	1	40	2.50	1.20
*GE1538	*35123	190	25	1	40	2.50	1.20
GE1539	35124	200	25	1	40	2.50	1.20
GE1540	35126	225	25	1	45	5.50	2.00
*GE1541	*35127	250	25	1	45	5.50	2.00
*GE1542	*35128	275	25	1	45	5.50	2.00
GE1543	35129	300	25	1	45	5.50	2.00
*GE1544	*35130	325	25	1	45	5.50	2.00
*GE1545	*35131	350	25	1	45	5.50	2.00
*GE1546	*35132	375	25	1	45	5.50	2.00
GE1547	35133	400	25	1	45	5.50	2.00
*GE1548	*36480	425	10	1	60	8.00	3.00
*GE1549	*36481	450	10	1	60	8.00	3.00
*GE1550	*36482	475	10	1	60	8.00	3.00
GE1551	36483	500	10	1	60	8.00	3.00
*GE1552	*36484	525	10	1	60	8.00	3.00
*GE1553	*37755	550	10	1	60	8.00	3.00
*GE1554	*36485	575	10	1	60	8.00	3.00
GE1555	36486	600	10	1	60	8.00	3.00

*Can be furnished but is not carried in stock by manufacturer.



G-E Enclosed Fuses

3-100 Amp., 2500 Volts
Schedule F Class 1



Cat. No.	Cap. Amp.	Std. Pkg.	Car- ton	Wt., Lbs. Std. Pkg.	Price Each	Refilling Price
*121935	3	50	10	28	\$1.50	\$1.10
121936	5	50	10	28	1.50	1.10
*121937	8	50	10	28	1.50	1.10
121938	10	50	10	28	1.50	1.10
*121939	12	50	10	28	1.50	1.10
121940	15	50	10	28	1.50	1.10
121941	20	50	10	28	1.50	1.10
121942	25	50	10	28	1.50	1.10
121943	30	50	10	28	1.50	1.10
*121945	35	25	5	32	2.00	1.30
121946	40	25	5	32	2.00	1.30
*121947	45	25	5	32	2.00	1.30
121948	50	25	5	32	2.00	1.30
*121949	55	25	5	32	2.00	1.30
121950	60	25	5	32	2.00	1.30
*121952	65	25	1	38	3.00	1.60
*121953	70	25	1	38	3.00	1.60
121954	75	25	1	38	3.00	1.60
*121955	80	25	1	38	3.00	1.60
*121956	90	25	1	38	3.00	1.60
121957	100	25	1	38	3.00	1.60

*Can be furnished but is not carried in stock.

No. GE28839 Enclosed Indicating Fuses

3 Amp., 600 Volts

Schedule F Class 1

This fuse is designed for use with 3-ampere combined rotary switches and cutouts.

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
28839	10	100	12	\$.40

No. GE439 Enclosed Indicating Fuses

5 Amp., 600 Volts

Schedule F Class 1

Designed for use with 10-ampere combined rotary switches and cutouts.

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE439	10	100	7	\$.40

No. GE679 Enclosed Indicating Fuses

10 Amp., 600 Volts

Schedule F Class 1

This fuse is designed for use with 10-ampere combined rotary switches and cutouts.

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE679	10	100	10	\$.40

No. GE722 Enclosed Indicating Fuses

15 Amp., 600 Volts

Schedule F Class 1

For use with 10-ampere combined rotary switches and cutouts.

Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GE722	10	100	12	\$.40

No. 42412 G-E Electrolier Cutouts

For Glass Tube Enclosed Fuses

2 Amp., 250 Volts—Single Pole

Schedule G Class 1



Cat. No.	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
42412	50	100	12	\$.20

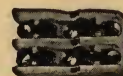
No. GE-705 Electrolier Cutouts

For Glass Tube Enclosed Fuses

2 Amp., 250 Volts—Double Pole

Schedule G Class 1

Cat. No.	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GE705	25	100	22	\$.40



No. 132765 G-E Glass Tube Fuses

For Electrolier Cutouts

1 Amp., 250 Volts

Schedule F Class 1



Cat. No.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
132765	50	100	2	\$.05

No. 132766 G-E Glass Tube Fuses

For Electrolier Cutouts

2 Amp., 250 Volts

Schedule F Class 1

Cat. No.	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
132766	50	100	2	\$.05

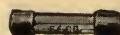


No. 132767 G-E Glass Tube Fuses

For Electrolier Cutouts

3 Amp., 250 Volts

Schedule F Class 1



Cat. No.	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
132767	50	100	2	\$.05

G-E Fuse Wire

2.25 to 100 Amp., 250 Volts

Schedule G Class 1

Diam. In.	AMPERE CAPACITY WHEN FUSE LENGTH BETWEEN TERMINAL IS			No. of Feet per Lb. (Approx.)	WEIGHT, POUNDS		Price Each
	1 In.	2 In.	3 In.		Std. Pkg.	Car- ton	
.015	3	2.5	2.25	1032.0	10	1/2	\$2.80
.025	6	2.8	2.5	500.0	10	1	2.20
.035	10	8.0	7.5	256.0	10	1	2.20
.040	12	9.6	9.0	196.0	10	1	2.20
.045	15	12.0	11.25	155.0	10	1	2.20
.055	20	16.0	15.0	104.0	10	1	2.20
.062	25	20.0	18.75	81.0	10	1	2.00
.070	30	24.0	22.5	64.0	10	1	2.00
.078	35	28.0	26.25	52.0	10	1	2.00
.085	40	32.0	30.0	43.0	10	1	2.00
.091	45	36.0	33.75	38.0	10	1	2.00
.097	50	40.0	37.5	33.0	10	1	2.00
.104	55	44.0	41.25	29.0	10	1	2.00
.110	60	58.0	45.0	26.0	10	1	2.00
.117	70	56.0	53.0	22.0	10	1	2.00
.127	75	60.0	56.5	20.0	10	1	2.00
.132	80	64.0	60.0	18.0	10	1	2.00
.144	90	72.0	67.5	15.0	10	1	2.00
.155	100	80.0	75.0	13.0	10	1	2.00

Sizes may be assorted in carton lots to make up standard package quantity.

**G-E Renewable Enclosed Fuses**

Complete with Links

National Electrical Code Standard

3 to 60 Amperes, 250 Volts

Schedule F Class 6

Ferrule Contact



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
*GE1017	3	100	10	8	\$.50
*GE1018	4	100	10	8	.50
GE1019	5	100	10	8	.50
GE1020	6	100	10	8	.50
*GE1021	8	100	10	8	.50
GE1022	10	100	10	8	.50
*GE1023	12	100	10	8	.50
GE1024	15	100	10	8	.50
GE1025	20	100	10	8	.50
GE1026	25	100	10	8	.50
GE1027	30	100	10	8	.50
GE1029	35	100	10	18	1.00
GE1030	40	100	10	18	1.00
*GE1031	45	100	10	18	1.00
GE1032	50	100	10	18	1.00
*GE1033	55	100	10	18	1.00
GE1034	60	100	10	18	1.00

G-E Renewable Enclosed Fuses

National Electrical Code Standard

65 to 600 Amperes, 250 Volts

Schedule F Class 6

Knife Blade Contact



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
*GE1036	65	50	5	25	\$2.00
*GE1037	70	50	5	25	2.00
GE1038	75	50	5	25	2.00
*GE1039	80	56	5	25	2.00
*GE1040	85	50	5	25	2.00
*GE1041	90	50	5	25	2.00
*GE1042	95	50	5	25	2.00
GE1043	100	50	5	25	2.00
*GE1045	110	25	1	20	4.00
*GE1046	120	25	1	20	4.00
*GE1047	125	25	1	20	4.00
GE1048	150	25	1	20	4.00
*GE1049	175	25	1	20	4.00
GE1050	200	25	1	20	4.00
*GE1052	225	25	1	60	7.50
*GE1053	250	25	1	60	7.50
*GE1054	275	25	1	60	7.50
GE1055	300	25	1	60	7.50
*GE1056	325	25	1	60	7.50
*GE1057	350	25	1	60	7.50
*GE1058	375	25	1	60	7.50
GE1059	400	25	1	60	7.50
*GE1061	450	10	1	45	11.00
*GE1062	500	10	1	45	11.00
*GE1063	550	10	1	45	11.00
GE1064	600	10	1	45	11.00

*Can be furnished but is not carried in stock by manufacturer.

G-E Renewable Enclosed Fuse Links

National Electrical Code Standard

Schedule F Class 7

3-12 Amp., 250 Volts



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1094	3	100	100	1	\$.03
GE1095	4	100	100	1	.03
GE1096	5	100	100	1	.03
GE1097	6	100	100	1	.03
GE1098	8	100	100	1	.03
GE1099	10	100	100	1	.03
GE1100	12	100	100	1	.03

15-60 Amp., 250 Volts



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1101	15	100	100	1	\$.03
GE1102	20	100	100	1	.03
GE1103	25	100	100	1	.03
GE1104	30	100	100	1	.03
GE1105	35	100	100	1	.05
GE1106	40	100	100	1	.05
GE1107	45	100	100	1	.05
GE1108	50	100	100	1	.05
GE1109	55	100	100	1	.05
GE1110	60	100	100	1	.05

65-600 Amp., 250 Volts



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1111	65	50	50	1	\$.10
GE1112	70	50	50	1	.10
GE1113	75	50	50	1	.10
GE1114	80	50	50	1	.10
GE1115	85	50	50	1	.10
GE1116	90	50	50	1	.10
GE1117	95	50	50	1	.10
GE1118	100	50	50	1	.10
GE1119	110	25	25	1	.15
GE1120	120	25	25	1	.15
GE1121	125	25	25	1	.15
GE1122	150	25	25	1	.15
GE1123	175	25	25	1	.15
GE1124	200	25	25	1	.15
*GE1125	225	25	25	1	.30
*GE1126	250	25	25	1	.30
*GE1127	275	25	25	1	.30
*GE1128	300	25	25	1	.30
*GE1129	325	25	25	1	.30
*GE1130	350	25	25	1	.30
*GE1131	375	25	25	1	.30
*GE1132	400	25	25	1	.30
†GE1133	450	10	10	1	.60
†GE1134	500	10	10	1	.60
†GE1135	550	10	10	1	.60
†GE1136	600	10	10	1	.60

*Catalogue Number covers two links which comprise the fuse element for fuses of this capacity.

†Catalogue Number covers four links.



G-E Renewable Enclosed Fuses

Complete with Links

National Electrical Code Standard
3 to 60 Amperes, 600 Volts

Schedule F Class 6
Ferrule Contact



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1066	3	100	10	22	\$1.10
*GE1067	4	100	10	22	1.10
*GE1068	5	100	10	22	1.10
GE1069	6	100	10	22	1.10
*GE1070	8	100	10	22	1.10
GE1071	10	100	10	22	1.10
*GE1072	12	100	10	22	1.10
GE1073	15	100	10	22	1.10
GE1074	20	100	10	22	1.10
GE1075	25	100	10	22	1.10
GE1076	30	100	10	22	1.10
*GE1078	35	100	10	42	1.25
GE1079	40	100	10	42	1.25
GE1080	45	100	10	42	1.25
GE1081	50	100	10	42	1.25
*GE1082	55	100	10	42	1.25
GE1083	60	100	10	42	1.25

G-E Renewable Enclosed Fuses

National Electrical Code Standard
65 to 600 Amperes, 600 Volts

Schedule F Class 6
Knife Blade Contact



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1085	65	50	5	55	\$3.00
*GE1086	70	50	5	55	3.00
GE1087	75	50	5	55	3.00
GE1088	80	50	5	55	3.00
*GE1089	85	50	5	55	3.00
*GE1090	90	50	5	55	3.00
*GE1091	95	50	5	55	3.00
GE1092	100	50	5	55	3.00
*GE1376	110	25	1	52	5.00
*GE1377	120	25	1	52	5.00
GE1378	125	25	1	52	5.00
GE1379	150	25	1	52	5.00
*GE1380	175	25	1	52	5.00
GE1381	200	25	1	52	5.00
*GE1382	225	25	1	125	11.00
GE1383	250	25	1	125	11.00
*GE1384	275	25	1	125	11.00
GE1385	300	25	1	125	11.00
*GE1386	325	25	1	125	11.00
*GE1387	350	25	1	125	11.00
*GE1388	375	25	1	125	11.00
GE1389	400	25	1	125	11.00
*GE1390	450	10	1	70	16.00
*GE1391	500	10	1	70	16.00
*GE1392	550	10	1	70	16.00
GE1393	600	10	1	70	16.00

*Can be furnished but is not carried in stock by manufacturer.

G-E Renewable Enclosed Fuse Links

National Electrical Code Standard

Schedule F Class 7

3—12 Amp., 600 Volts



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1137	3	100	100	1	\$.05
GE1138	4	100	100	1	.05
GE1139	5	100	100	1	.05
GE1140	6	100	100	1	.05
GE1141	8	100	100	1	.05
GE1142	10	100	100	1	.05
GE1143	12	100	100	1	.05

15—60 Amp. 600 Volts



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1144	15	100	100	1	\$.05
GE1145	20	100	100	1	.05
GE1146	25	100	100	1	.05
GE1147	30	100	100	1	.05
GE1148	35	100	100	1	.06
GE1149	40	100	100	1	.06
GE1150	45	100	100	1	.06
GE1151	50	100	100	1	.06
GE1152	55	100	100	1	.06
GE1153	60	100	100	1	.06

65—600 Amp. 600 Volts



Cat. No.	Cap. Amp.	Std. Pkg.	Car-ton	Wt., Lbs. Std. Pkg.	Price Each
GE1154	65	50	50	1	\$.10
GE1155	70	50	50	1	.10
GE1156	75	50	50	1	.10
GE1157	80	50	50	1	.10
GE1158	85	50	50	1	.10
GE1159	90	50	50	1	.10
GE1160	95	50	50	1	.10
GE1161	100	50	50	1	.10
GE1394	110	25	25	2	.15
GE1395	120	25	25	2	.15
GE1396	125	25	25	2	.15
GE1397	150	25	25	2	.15
GE1398	175	25	25	2	.15
GE1399	200	25	25	2	.15
*GE1400	225	25	25	2	.30
*GE1401	250	25	25	2	.30
*GE1402	275	25	25	2	.30
*GE1403	300	25	25	2	.30
*GE1404	325	25	25	2	.30
*GE1405	350	25	25	2	.30
*GE1406	375	25	25	2	.30
*GE1407	400	25	25	2	.30
†GE1408	450	10	10	2	.60
†GE1409	500	10	10	2	.60
†GE1410	550	10	10	2	.60
†GE1411	600	10	10	2	.60

*Catalogue Number covers two links which comprise the fuse element for fuses of this capacity.

†Catalogue Number covers four links.



G-E Enclosed Fuse Cutouts

Dimensions

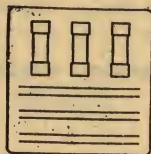


Fig. No. 1

Fig. No. 1 represents the position of cutouts, in relation to fuses.

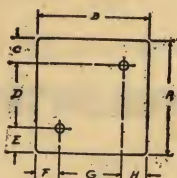


Fig. No. 2

Cat. No.	DIMENSIONS, INCHES								Max. Ht.	Size Hole
	A	B	C	D	E	F	G	H		
21474	8 1/2	2 3/8	2 3/16	4 1/8	2 3/16	1/2	1 3/8	1/2	2 1/2	1/4
34964	6 1/8	2 1/8	1 11/16	2 3/4	1 11/16	1/2	1 1/8	1/2	2 3/2	1/4
34991	7	1 3/4	2 3/16	2 5/8	2 3/16	7/16	7/8	7/16	1 7/8	1/4
35101	7 5/8	1 3/4	2 5/16	3	2 5/16	7/16	7/8	7/16	2 1/8	1/4
36802	3 3/8	1 3/8	1 11/16	...	1 11/16	...	2 5/8	1 1/2	1 1/2	1 3/4
36803	4 1/2	1 5/8	2 1/4	...	...	2 1/4	7/8	3/8	1 1/2	1 3/4
42412	2 3/8	3/4	1 3/16	...	1 3/16	3/8	3/4	3/8	1 3/8	3/16
189666	3 3/4	1 7/8	1 5/8	1 1/2	1 5/8	9/16	3/4	9/16	1 9/16	3/16
189667	7	2 1/4	2 3/16	2 5/8	2 3/16	1 1/8	1 1/8	...	2 1/16	1/4

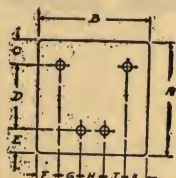


Fig. No. 3

Cat. No.	DIMENSIONS, INCHES										Ht.
	A	B	C	D	E	F	G	H	J	K	
34379	8 1/16	5 5/16	2 1/2	4 1/16	1 1/2	3 1/2	2 7/2	1 1/16	2 1/2	3 1/2	1 5/16

Holding down screw holes 7/32 inch diameter.

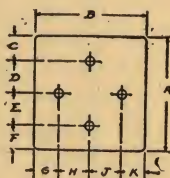


Fig. No. 4

Cat. No.	DIMENSIONS, INCHES										Ht.
	A	B	C	D	E	F	G	H	J	K	
36800	7 3/8	5 5/8	2 5/16	3/4	3/4	2 15/16	1 1/16	1 3/4	1 3/4	1 1/16	2 9/16

Holding down screw holes 9/32 inch diameter.

G-E Enclosed Fuse Cutouts

Continued

Dimensions

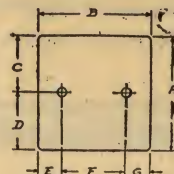


Fig. No. 5

Cat. No.	DIMENSIONS, INCHES								Max. Ht.	Size Hole
	A	B	C	D	E	F	G			
34367	3 5/16	2 3/16	1 1/2	1 1/2	2 5/2	1 1/4	2 5/2	1 7/16	1 7/16	7/32
34372	3 5/16	4 1/16	1 1/2	1 1/2	2 5/2	2 1/2	2 5/2	1 7/16	1 7/16	7/32
34376	5	3 5/8	2 1/2	2 1/2	3 1/2	1 11/16	3 1/2	1 5/16	1 5/16	1/4
34377	5	5 5/16	2 1/2	2 1/2	3 1/2	3 3/8	3 1/2	1 5/16	1 5/16	1/4
GE705	2 3/8	1 1/2	1 3/16	1 3/16	3/8	1 1/2	3/8	1 3/16	1 3/16	3/16

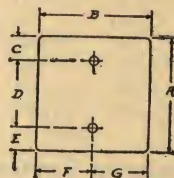


Fig. No. 6

Cat. No.	DIMENSIONS, INCHES								Max. Ht.	Size Hole
	A	B	C	D	E	F	G			
34368	4 5/16	2 1/16	1 1/2	2 7/32	1 1/16	1 1/2	1 1/2	1 7/16	1 7/16	7/32
34369	7 3/4	2 3/16	1 1/2	4 1/16	1 1/2	1 1/2	1 1/2	1 7/16	1 7/16	7/32
34370	8 7/8	2 3/16	1 1/2	5 9/16	1 1/2	1 1/2	1 1/2	1 7/16	1 7/16	7/32
34373	6 1/16	4 1/16	1 1/2	3 1/2	1 1/16	2 1/2	2 1/2	1 7/16	1 7/16	7/32
34378	6 5/16	3 5/8	3/8	4 15/16	1 1/2	1 1/16	1 1/16	1 5/16	1 5/16	1/4

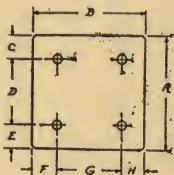


Fig. No. 7

Cat. No.	DIMENSIONS, INCHES										Max. Ht.	Size Hole
	A	B	C	D	E	F	G	H				
34374	8 7/8	4 1/16	1 1/2	5 9/16	1 1/2	2 5/2	2 1/2	2 5/2	1 9/16	1 9/16	7/32	
34971	7 3/8	2 3/4	2 1/16	3 1/4	2 1/16	1 1/2	1 3/4	1 1/2	3 1/4	3 1/4	7/32	
34982	8 3/4	2 3/4	3 1/8	2 1/2	3 1/8	3/4	1 1/4	3/4	3 5/16	3 5/16	9/32	
35114	9 1/8	2 3/4	2 5/16	5 1/4	2 5/16	1/2	1 3/4	1 1/2	3 1/4	3 1/4	9/32	
35125	12 1/4	3	2 7/8	6 1/2	2 7/8	5/8	1 3/4	5/8	3 5/16	3 5/16	9/32	
36471	11 1/4	3 1/2	3 5/8	4	3 5/8	3/4	2	3/4	5	5	9/32	
36479	14 1/4	3 1/2	3 5/8	7	3 5/8	3/4	2	3/4	5	5	9/32	
36801	7 3/8	3 7/8	2 1/2	2 3/8	2 1/2	1 1/16	1 3/4	1 1/16	2 9/16	2 9/16	9/32	
36804	11 7/8	5 5/16	2 1/2	6 7/8	2 1/2	3 1/2	3 3/8	3 1/2	2 7/16	2 7/16	9/32	
36805	11 7/8	3 5/8	2 1/2	6 7/8	2 1/2	3 1/2	1 11/16	3 1/2	2 3/16	2 3/16	9/32	
36806	10 5/8	3 5/8	2 1/2	5 5/8	2 1/2	3 1/2	1 11/16	3 1/2	2 3/16	2 3/16	9/32	



Tested Fuse Wire



Fuse wire is carefully wound on spools having heavy flanges which effectually protect the soft fusible metal from abrasion or other mechanical injury; these are then placed in small cans that are properly labeled and sealed, so that fuse wire may be stored away for an indefinite time without depreciation in quality or appearance.

Safe Carrying Cap. Amps.	BEST LENGTH FOR USE AND FUSING		Length Feet per Lb.	Diam. Inches	No. of Spools	Std. Pkg. Size		Price per Lb.
	Inches	Amperes				Ft.	Oz.	
1/4	1	3 3/4	12920	.0045	1	250		\$100.00
1/2	1	1 3/4	2616	.010	2	4		10.00
1	1 1/4	3 1/4	1021	.016	2	8		4.00
2	1 1/2	5 1/2	419	.025	2	8		3.50
3	1 1/2	7 1/2	273	.031	2	8		3.00
5	1 3/4	10	172	.039	1	1	Lb.	2.25
6	2	11	148	.042	1	1		2.25
10	2 1/4	16	87	.055	1	1		2.00
15	2 1/4	22	57	.068	1	1		2.00
20	2 1/2	28	39	.082	1	1		1.50
25	2 3/4	34	29 3/4	.094	1	1		1.50
30	2 3/4	40	24 3/4	.103	1	1		1.50
40	3	48	17 1/2	.122	1	1		1.50
50	3	59	14	.137	1	1		1.50
60	3 1/4	70	10 1/2	.158	1	5		1.50
70	3 1/4	78	9	.170	1	5		1.50
75	3 1/2	85	8	.182	1	5		1.50
80	3 1/2	92	7 1/4	.189	1	5		1.50
90	3 1/2	108	5 3/4	.212	1	5		1.50
100	4	114	5	.226	1	5		1.50

Tested Fuse Strip

Safe Carrying Cap. Amps.	Approx. Fusing Currents Between Contacts Amperes	Width Strip Inches	Thickness Inches	Wt., Oz. per Foot	Price per Lb.
50	69	5/8	.020	1	\$1.50
60	81	5/8	.025	1 1/8	1.50
70	93	5/8	.030	1 3/8	1.50
75	99	5/8	.032	1 1/2	1.50
80	106	5/8	.035	1 5/8	1.50
90	118	5/8	.043	2	1.50
100	129	1	.028	2 1/8	1.50
125	158	1	.036	2 3/4	1.50
150	187	1	.044	3 3/8	1.50
175	215	1	.052	3 7/8	1.50
200	243	1	.060	4 1/2	1.50
225	270	1	.068	5 1/8	1.50
250	298	1	.076	5 3/4	1.50
275	325	1	.085	6 3/8	1.50
300	351	1	.093	7	1.50
350	402	1	.110	8 1/4	1.50
400	450	1	.128	9 5/8	1.50
450	500	1	.148	11 1/8	1.50
500	550	1	.171	12 3/8	1.50
600	675	1	.212	16	1.50

Fuse strips of larger size than listed can be furnished. The approximate fusing current given above will vary slightly under different conditions of mounting.

For sizes above 600 amperes, it is recommended, because of thickness required, to use two thinner strips, side by side. To get correct size with this arrangement divide amperage required by two and add 15 per cent e. g.—For 800 amps., take 400 and add 15 per cent (giving 460) use nearest size, two 450 ampere strips for 800 ampere service.

Nos. 00-1 Open Wire Fuse Links

For Rosettes, Instruments and Midget Cut-outs



When ordering, specify distance from center to center.

Terminal No.	Ampere Capacity	Distance C. to C. Inches	Size of Slot Inches	Width of Terminal Inches	Price Each
00	1-10	3 1/2 to 1 1/2	7/64	1/4	\$.10
00	1-10	1 5/8 " 3 1/2	7/64	1/4	.10
00	1-10	3 5/8 " 5	7/64	1/4	.10
0	1-10	1 5/8 " 1 1/2	1/8	1 1/2	.10
0	1-10	1 5/8 " 3 1/2	1/8	1 1/2	.10
0	1-10	3 5/8 " 5	1/8	1 1/2	.10
1	1-30	1 1/2 " 1 1/2	1 1/4	3/8	.10
1	1-30	1 5/8 " 3 1/2	1 1/4	3/8	.10
1	1-30	3 5/8 " 5	1 1/4	3/8	.10
1	1-30	5 1/4 " 8	1 1/4	3/8	.10

No. 2 Wire Fuse Links

Capacity, 1-50 Amperes

For Switches, Cut-outs and Panel Boards

Distance C. to C. Inches	Size of Slot Inches	Width of Terminal Inches	Price Each
1 5/8 to 1 5/8	3/16	9/16	\$.14
1 3/4 " 3 1/2	3/16	9/16	.14
3 5/8 " 5	3/16	9/16	.14
5 1/4 " 8	3/16	9/16	.14

No. 3 Wire Fuse Links

Capacity, 1-50 Amperes

For Switches, Cut-outs and Panel Boards

Distance C. to C. Inches	Size of Slot Inches	Width of Terminal Inches	Price Each
1 5/8 to 1 5/8	3/16	9/16	\$.14
1 3/4 " 3 1/2	3/16	9/16	.14
3 5/8 " 5	3/16	9/16	.14
5 1/4 " 8	3/16	9/16	.14

No. 5 Wire Fuse Links

Capacity, 25-100 Amperes

For Switches, Cut-outs and Panel Boards

Distance C. to C. Inches	Size of Slot Inches	Width of Terminal Inches	Price Each
1 1/2 to 3 1/2	1/4	1 1/2	\$.20
1 5/8 " 5	1/4	1 1/2	.20
3 5/8 " 8	1/4	1 1/2	.20

Nos. 7-16 Open Strip Fuse Links

For Switches, Cut-outs and Panel Boards



Nos. 7, 10 and 16 have slot terminals. No. 12. has hole terminal. Center to center must be specified when ordering.

Terminal No.	Ampere Capacity	Distance C. to C. Inches	Size of Slot Inches	Width of Terminal Inches	Price Each
7	25-150	2 to 2 1/2	3/8	3/4	\$.30
7	25-150	2 5/8 " 5	3/8	3/4	.30
7	25-150	5 1/4 " 8	3/8	3/4	.30
10	200-400	3 3/8 " 5	1/2	1 3/8	1.20
10	200-400	5 1/4 " 8	1/2	1 3/8	1.20
10	401-600	3 7/8 " 5	1/2	1 3/8	1.20
10	401-600	5 1/4 " 8	1/2	1 3/8	1.20
12	100-200	2 3/8 " 2 1/2	7/16	1 3/4	.60
12	100-200	2 5/8 " 5	7/16	1 3/4	.60
12	100-200	5 1/4 " 8	7/16	1 3/4	.60
12	201-400	2 5/8 " 5	7/16	1 3/4	.60
12	201-400	5 1/4 " 8	7/16	1 3/4	.60
16	100-200	2 5/8 " 2 1/2	7/16	1 3/4	.60
16	100-200	2 5/8 " 5	7/16	1 3/4	.60
16	100-200	5 1/4 " 8	7/16	1 3/4	.60
16	201-400	2 5/8 " 5	7/16	1 3/4	.60
16	201-400	5 1/4 " 8	7/16	1 3/4	.60

We are New England Distributors for
THE COMPLETE LINE
of
TRUMBULL PRODUCTS



The Trumbull Line is a quality product throughout, made by the Trumbull Electric Manufacturing Company, of Plainville, Conn., a nationally-known concern of long-established reputation.

Their complete service is at the command of all our customers.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Type A Trumbull Safety Switches

250 Volts D.C. and 500 Volts A.C.

No Fuse, Single Throw

Quick Make and Quick Break

Cat. No.	Amp.	No. of Poles	Volts	Shipping Wt. Each, Lbs.	Price Each
36221	30	2	250	11 1/2	\$8.00
36321	30	3	250	13 1/2	9.60
36421	30	4	250	16 1/2	14.00
36251	30	2	500 A.C.	14 1/2	10.00
36351	30	3	500 A.C.	18 1/2	12.00
36451	30	4	500 A.C.	24 1/2	15.50
36222	60	2	250-500	14 1/2	10.00
36322	60	3	250-500	18 1/2	12.40
36422	60	4	250-500	24 1/2	15.50
36223	100	2	250-500	24	16.00
36323	100	3	250-500	29	18.50
36423	100	4	250-500	37	22.50
36224	200	2	250-500	35	21.60
36324	200	3	250-500	45	26.40
36424	200	4	250-500	55	35.00
36225	400	2	250-500	71	44.50
36325	400	3	250-500	92	54.00
36425	400	4	250-500	112	82.00
36226	600	2	250-500	92	64.00
36326	600	3	250-500	122	77.00
36426	600	4	250-500	152	112.00

Quick Break Only

30227	800	2	250-500	140	127.00
30327	800	3	250-500	180	161.00
30427	800	4	250-500	220	195.00
30228	1000	2	250-500	180	155.00
	1200				
30328	1000	3	250-500	240	211.00
	1200				
30428	1000	4	250-500	300	279.00
	1200				

Type A Trumbull Safety Switches

250 Volts D.C. and 500 Volts A.C.

No Fuse, Double Throw, Quick Break

Double throw switches are self-centering. A plunger operating from spring in the handle hub, rests in a hole in the box when switch is in "off" position, thus neutralizing gravity.

Switches 400 amperes and above are in boxes having flat instead of panel covers.



Cat. No.	Amperes	No. of Poles	Volts	Shipping Wt. Each, Lbs.	Price Each
35221	30	2	250	14	\$11.00
35321	30	3	250	17	13.50
35421	30	4	250	19	19.00
35251	30	2	500 A.C.	18	12.50
35351	30	3	500 A.C.	20	15.50
35451	30	4	500 A.C.	30	23.00
35222	60	2	250-500	21	13.00
35322	60	3	250-500	23	16.00
35422	60	4	250-500	31	22.50
35223	100	2	250-500	32	22.50
35323	100	3	250-500	38	28.50
35423	100	4	250-500	48	51.00
35224	200	2	250-500	45	31.50
35324	200	3	250-500	73	47.00
35424	200	4	250-500	100	68.50
35225	400	2	250-500	120	92.00
35325	400	3	250-500	151	123.50
35425	400	4	250-500	180	164.50
35226	600	2	250-500	160	130.00
35326	600	3	250-500	200	173.00
35426	600	4	250-500	240	202.50

Type A Trumbull Safety Switches

250 Volts A. C. or D. C. and 500 Volts A. C.

For Enclosed Fuses at Bottom—Single Throw



No. 72322
Box Closed



No. 72323
Box Opened

Box cannot be opened when switch is closed.

A catch prevents switch from being closed when box is open. The closing of box releases the catch.

(The catch can be manipulated by wire-man when convenient to test line with box open.)

Handle is of cast iron. Box can be locked and sealed when switch is in open position. Knockouts ends, sides, and rear. Ample room on all sides for wiring.

If so specified 3 pole switch with solid neutral can be furnished at regular prices.

Main feeder conduit holes Prices on request.

No fuses are included in prices.

Quick Make and Quick Break

Cat. No.	Amperes	No. of Poles	Volts	Shipping Wt. Each, Lbs.	Price Each
72221	30	2	250	12	\$8.86
72321	30	3	250	14	10.74
72421	30	4	250	17	12.54
72251	30	2	500 A.C.	18	12.60
72351	30	3	500 A.C.	21	14.74
72451	30	4	500 A.C.	29	17.54
72222	60	2	250	14	11.00
72322	60	3	250	20	14.50
72422	60	4	250	29	17.22
72252	60	2	500 A.C.	20	12.80
72352	60	3	500 A.C.	22	15.00
72452	60	4	500 A.C.	31	17.80
72223	100	2	250	27	18.00
72323	100	3	250	30	23.06
72423	100	4	250	47	28.84
72253	100	2	500 A.C.	32	21.50
72353	100	3	500 A.C.	36	25.00
72453	100	4	500 A.C.	66	29.00
72224	200	2	250	44	25.66
72324	200	3	250	53	32.24
72424	200	4	250	70	43.94
72254	200	2	500 A.C.	50	34.00
72354	200	3	500 A.C.	54	38.50
72454	200	4	500 A.C.	102	44.06
72225	400	2	250	95	50.00
72325	400	3	250	128	65.00
72425	400	4	250	165	88.00
72255	400	2	500 A.C.	108	62.00
72355	400	3	500 A.C.	155	76.00
72455	400	4	500 A.C.	170	89.00
72226	600	2	250	120	72.00
72326	600	3	250	161	92.00
72426	600	4	250	200	122.00
72256	600	2	500 A.C.	130	86.00
72356	600	3	500 A.C.	180	102.00
72456	600	4	500 A.C.	230	125.00

Quick Break Only

60227	800	2	250	210	\$137.00
60327	800	3	250	280	182.00
60427	800	4	250	380	237.00
60228	1000	2	250	250	186.00
	1200				
60328	1000	3	250	330	255.00
	1200				
60428	1000	4	250	450	337.00
	1200				



Type A Trumbull Safety Switches

250 Volts A. C. or D. C. and 500 Volts A. C.

For Enclosed Fuses at Bottom—Double Throw
Quick Break Only



When switch is in "off" position the catch is thrown back, enabling cover to be raised. Handle hub is locked so switch cannot be closed until cover is down.

Catch in box locks over pin on cover and holds box closed until thrown into "off" position.

Handles are of cast iron.

Ample room in boxes for wiring. The wiring room available in each size of box allows ample room both on ends and sides.

Box can be locked and handle locked with switch in open position.

A plunger operating from spring in the handle hub, resets in a hole in the box when switch is in "off" position, thus neutralizing gravity.

Multiple terminal lugs regularly furnished on switches 600 amperes and above. All double throw switches, 200 amperes and above, are in boxes having flat instead of panel covers.

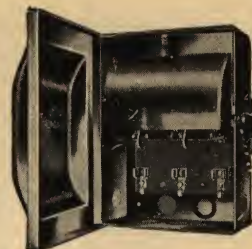
30-ampere, 500-volt A.C. switches made of 60-ampere stock.

Cat. No.	Amperes	No. of Poles	Volts	Ship. Wt. Each, Lbs.	Price Each
70221	30	2	250	20	\$14.50
70321	30	3	250	23	18.00
70421	30	4	250	31	25.00
70251	30	2	500 A.C.	37	29.50
70351	30	3	500 A.C.	40	26.00
70451	30	4	500 A.C.	56	44.00
70222	60	2	250	26	18.50
70322	60	3	250	36	23.50
70422	60	4	250	47	40.00
70252	60	2	500 A.C.	38	30.00
70352	60	3	500 A.C.	44	26.00
70452	60	4	500 A.C.	68	45.50
70223	100	2	250	90	45.00
70323	100	3	250	100	54.00
70423	100	4	250	140	62.00
70253	100	2	500 A.C.	100	48.00
70353	100	3	500 A.C.	112	58.00
70453	100	4	500 A.C.	155	68.00
70224	200	2	250	118	65.00
70324	200	3	250	132	85.50
70424	200	4	250	180	99.00
70254	200	2	500 A.C.	160	68.00
70354	200	3	500 A.C.	180	81.00
70454	200	4	500 A.C.	230	105.00
70225	400	2	250	200	131.00
70325	400	3	250	225	180.50
70425	400	4	250	300	201.50
70255	400	2	500 A.C.	260	142.00
70355	400	3	500 A.C.	285	180.50
70455	400	4	500 A.C.	390	218.00
70226	600	2	250	240	164.00
70326	600	3	250	270	219.00
70426	600	4	250	360	259.00

Type A Trumbull Safety Switches

250 Volts A. C. or D. C. and 500 Volts A. C.

For Enclosed Fuses at Bottom—Single Throw
Quick Make and Quick Break
With Protective Shield



Shield is screwed to brackets and can easily be removed when an examination of switch is desired.

250-volt, 500-volt A.C. switches furnished with Snuf-Arc barriers at 600-volt prices.

Weights given are for one switch in corrugated paper box packed for shipping.

Knockouts in ends, sides and rear.

Holes, prices on request.

Multiple terminal lugs regularly furnished on switches 600 amperes and above.

30-ampere, 500-volt A.C. switches made of 60-ampere stock.

Cat. No.	Amperes	No. of Poles	Volts	Ship. Wt. Each, Lbs.	Price Each
75221	30	2	250	13	\$12.50
75321	30	3	250	15	15.00
75421	30	4	250	18	17.50
75251	30	2	500 A.C.	19	16.50
75351	30	3	500 A.C.	22	18.50
75451	30	4	500 A.C.	30	22.00
75222	60	2	250	15	14.50
75322	60	3	250	21	17.50
75422	60	4	250	30	22.00
75252	60	2	500 A.C.	21	17.50
75352	60	3	500 A.C.	23	19.50
75452	60	4	500 A.C.	32	23.00
75223	100	2	250	29	22.00
75323	100	3	250	32	27.50
75423	100	4	250	49	37.00
75253	100	2	500 A.C.	34	24.50
75353	100	3	500 A.C.	38	28.00
75453	100	4	500 A.C.	68	37.00
75224	200	2	250	47	32.00
75324	200	3	250	56	41.00
75424	200	4	250	73	52.00
75254	200	2	500 A.C.	53	36.50
75354	200	3	500 A.C.	57	42.00
75454	200	4	500 A.C.	106	52.50
75225	400	2	250	98	59.00
75325	400	3	250	132	82.00
75425	400	4	250	169	92.00
75255	400	2	500 A.C.	111	94.00
75355	400	3	500 A.C.	158	105.00
75455	400	4	500 A.C.	174	93.00
75226	600	2	250	166	91.00
75326	600	3	250	205	108.00
75426	600	4	250	135	149.00
75256	600	2	500 A.C.	185	126.00
75356	600	3	500 A.C.	235	142.00
75456	600	4	500 A.C.	215	150.00

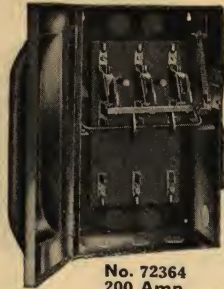


Type A Trumbull Safety Switches

600 Volts A. C.
Snuf-Arc Type, Single Throw
Quick Make and Quick Break



No. 36362



No. 72364
200 Amp.

The Snuf-Arc type of 600-volt A.C. switch is of regular knife switch design and material except that it has in addition a swinging moulded barrier hinged on each of the contact jaw posts, which is operated by an insulated connecting rod attached to each blade in such a way that when the blade leaves the jaw post, the barrier instantly swings between the breaking points, effectually extinguishing the arc and preventing short circuits caused by side flare.

The barrier is substantially made of fire-proof insulating material moulded into one piece.

There are three parts: the heavy center piece which swings closely over the contact jaw post, and the two wide flat side sections which inclose each side of the jaw post and end of blade.

The center piece stretches and breaks the arc. The flat side sections prevent side flare and the spreading of the arc to adjoining posts or to the sides of the inclosing cabinets.

All 600-volt safety switches Snuf-Arc type same size as regular 500-volt A.C.

Knockouts in ends, sides and rear.

Can be equipped with shields, prices on request.

Main feeder conduit holes, prices on request.

30-ampere switches made of 60-ampere stock.

Weights are given for one switch in corrugated paper box packed for shipping.

No Fuse—Single Throw

Cat. No.	Amperes	No. of Poles	Volts	Ship. Wt. Each, Lbs.	Price Each
36261	30	2	600	13	\$11.00
36361	30	3	600	17	14.00
36461	30	4	600	24	17.50
36262	60	2	600	13	11.50
36362	60	3	600	17	14.50
36462	60	4	600	22	18.50
36263	100	2	600	23	17.50
36363	100	3	600	28	21.00
36463	100	4	600	35	25.50
36264	200	2	600	33	23.50
36364	200	3	600	40	29.00
36464	200	4	600	43	37.50
36265	400	2	600	..	56.00
36365	400	3	600	..	75.00
36465	400	4	600	..	103.00
36266	600	2	600	..	94.00
36366	600	3	600	..	125.00
36466	600	4	600	..	165.00

For N. E. C. Cartridge Fuse—Single Throw

Cat. No.	Amp.	No. of Poles	Volts	Ship. Wt. Each, Lbs.	Price Each
72261	30	2	600	20	\$14.00
72361	30	3	600	24	16.50
72461	30	4	600	31	20.00
72262	60	2	600	22	14.00
72362	60	3	600	25	17.00
72462	60	4	600	32	20.50
72263	100	2	600	35	23.00
72363	100	3	600	41	27.50
72463	100	4	600	55	32.50
72264	200	2	600	58	36.00
72364	200	3	600	70	41.50
72464	200	4	600	90	48.00
72265	400	2	..	..	79.00
72365	400	3	..	..	105.00
72465	400	4	..	..	123.00
72266	600	2	..	..	119.00
72366	600	3	..	..	154.00
72466	600	4	..	..	192.00

Type A Trumbull Compensator Switches

250 Volts D. C. 500 and 600 Volts A. C.

For Enclosed Fuses at Bottom
Quick Make and Break



This compensator switch is a fusible bottom switch with the addition of a lug attached to each hinge post to take the starting leads to compensator, making 2 leads, one unfused and one fused from each pole. The compensator switch, ahead of compensator, enables all power to be cut off from compensator when repairs are made.

The fuses of switch are used as running fuses for compensator, being connected only with running side of same, the starting side of the compensator being cut off from fuses.

Fibre end plate with elongated holes for taking wires is fastened in bottom end of box. Knockouts can be furnished instead of fibre plate on request.

Cat. No.	Amp.	No. of Poles	Volts	Ship. Wt. Each, Lbs.	Price Each
59321	30	3	250	13	\$13.96
59421	30	4	250	16 1/2	18.50
59351	30	3	500 A.C.	20	17.66
59361	30	3	600 V.A.C.	20	19.60
59322	60	3	250	19	17.36
59422	60	4	250	27 1/2	22.50
59352	60	3	500 A.C.	21	17.96
59362	60	3	600 V.A.C.	21	20.00
59323	100	3	250	28	26.92
59423	100	4	250	43	40.00
59353	100	3	500 A.C.	34 1/2	28.80
59363	100	3	600 V.A.C.	34 1/2	31.50
59324	200	3	250	49	39.00
59354	200	3	500 A.C.	50	43.10
59364	200	3	600 V.A.C.	50	46.50
59325	400	3	250	110	81.00
59326	600	3	250	139	107.20

Trumbull Motor Reversing Switches

250 Volts D. C. and 500 Volts A. C.

No Fuse, Double Throw

These switches are used for reversing D. C. or A. C. motors.

Wires are so run between outer contacts as to reverse the direction of the current when switch is thrown from one set of contacts to the other.

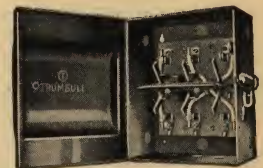
When switch is in "off" position the catch is thrown back, enabling cover to be raised. Handle hub is locked so switch cannot be closed until cover is down.

Catch in box locks over pin on cover and holds box until switch is thrown into "off" position.

Handles are of cast iron.

Ample room in boxes for wiring. The wiring room available in each size of box allows ample room both on ends and sides.

Box can be locked and handle locked with switch in open position.



No. 87322

Cat. No.	Amps.	No. of Poles	Volts	Ship. Wt. Each, Lbs.	Price Each
87221	30	2	250	14	\$12.00
87321	30	3	250	17	16.00
87421	30	4	250	19	21.00
87251	30	2	500 A.C.	18	14.50
87351	30	3	500 A.C.	20	18.50
87451	30	4	500 A.C.	30	27.00
87222	60	2	250-500	21	15.00
87322	60	3	250-500	23	19.00
87422	60	4	250-500	31	27.50
87223	100	2	250-500	32	25.00
87323	100	3	250-500	38	32.00
87423	100	4	250-500	48	55.50
87224	200	2	250-500	45	36.50
87324	200	3	250-500	73	55.00
87424	200	4	250-500	100	78.50



Type RM Trumbull Safety Switches

Quick-make and Quick-break
250 Volts A. C. or D. C.



No. 92221



No. 46221

Designed to meet the tremendous demand for a full safety switch, rugged in construction, small in size, low in price, for use with motors 3 horse power and below. Can be mounted, if desired, on motor-driven machines, where other than fuse protection is not required and under-voltage release is not necessary.

Removing two screws enables entire switch and fuse block to be taken from box. Thus, entire box space is available for connecting conduit and running wires.

Handle operates a compression spring on same principle as rest of Type A line. Handle would operate switch if spring should fail.

Constructed on double break principle. Blades being carried by a rotor of moulded material, actuated by the cam of the quick-make and quick-break mechanism.

When blades are in off position they throw into deep narrow slots in the base and thus effectually snuff out any arc which might have a tendency to follow.

The switch base, fuse block base, and rotor are all of high-grade moulded material of unusual strength and will stand much abuse in handling.

The fuse block mounted over the switch base, brings fuses directly to the front in most accessible position. Dead front construction.

Line terminals on switch base are accessible without removing fuse block. Load terminals are on fuse block above the line terminals. Thus on fusible switches both line and load terminals are on same end of box.

By reversing position of fuse block, line and load connections can be made at either top or bottom of switch as desired.

A shield attached by one screw, covers line terminals, preventing any possible contact with live parts. This shield will only fit on terminal end, top or bottom, depending on position of fuse block. Shield is placed at top of box as the fuse block is regularly placed so line and load are on top end.

Box is equipped with regular Type A interlocking catch.

Switches furnished fusible or no fuse. On no fuse switch the fuse block is removed and line connected at either top or bottom.

Cat. No.	Poles	Volts	OUTSIDE DIMENSIONS OF BOXES ONLY, IN.			Price Each
			Length	Width	Depth	
46221	2	250	8	5 1/4	4 1/2	\$4.80
46321	3	250	8	6 3/4	4 1/2	6.00
92221	2	250	8	5 1/4	4 1/2	5.50
92321	3	250	8	6 3/4	4 1/2	7.00

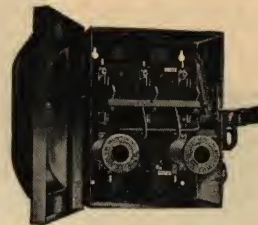
Knockouts

	Top and Bottom	Left Side	Back
2-pole	Two 1 1/2-inch One 1 1/2 x 3/4-inch	Two 1 1/2 x 3/4-inch One at each end	Two 1 1/2 x 3/4-inch One at each end
3-pole	Two 1 1/2-inch One 1 1/2 x 3/4-inch	Two 1 1/2 x 3/4-inch One at each end	Four 1 1/2 x 3/4-inch Two at each end

Type A Trumbull Motor Starting Switches

110-600 Volts A. C.

Quick Make and Quick Break
With Inverse Time Protective Plugs



No. 83321

Overload protection is furnished by two inverse time protective cutouts. The cutout contains a stationary contact post with heating coil and a fusible link which binds a spring contact arm to the stationary post. The fusible link is made in two parts, held together by a low fusing alloy. The motor circuit is completed through the heating coil, contact post, link, and spring contact arm. In case of an overload, the current passing through the heating coil, heats the contact post sufficiently to melt the low fusing alloy, which holds the two parts of the fusible link together, thereby releasing the spring contact arm, thus opening the motor circuit between the separating parts of the link.

After the circuit has been opened by the protective cutout a new link should be installed. The successful operation of the protective cutout depends upon the special low fusing alloy that holds the link together.

By reason of the time lag in the heating coil, the momentary inrush starting current will not cause the cutouts to open the circuit. The cutouts protect the motor from such overloads as are ordinarily met with in service.

Standard fuses must be used in series with the cutouts to provide protection against short circuits and to conform to the Underwriter's requirements regarding branch circuit fuses, because the cutouts can not be considered as taking the place of branch circuit fuses.

Note that eight extra links are enclosed with each 3-4-pole switch; four extra links with each 2-pole switch.

One switch serves for 500 V. A. C. and 600 V. A. C. This saves duplicating of stock and is a notable economy for the distributor as well as user.

Quick Make and Quick Break, 110-250 Volts A. C.

Cat. No.	Amperes	No. of Poles	Volts	Shipping Wt. Lbs., Each	Price Each
83221	30	2	110-250	17	\$9.00
83321	30	3	110-250	19	11.00
83421	30	4	110-250	22	13.75

Quick Make and Quick Break, 251-600 Volts A. C., Snuff-arc Type

Cat. No.	Amperes	No. of Poles	Volts	Shipping Wt. Lbs., Each	Price Each
83261	30	2	251-600	22	\$12.75
83361	30	3	251-600	27	15.50
83461	30	4	251-600	36	19.00

Trumbull Inverse Time Protective Plugs



Plugs are made to cover twenty separate ratings. Catalogue numbers of each plug are shown on another page.

Price, Any Rating.....each	\$9.00
" Assorted Rating, Carton of 10.....per carton	7.50
Price, One Rating, Carton of 10 "	7.00

Trumbull Inverse Time Protective Links

Eight extra links furnished with each 3-4-pole switch, four extra links with each 2-pole switch, or four extra links per plug, being placed inside box, accessible when needed.

Price, No. 167539, Lots of 10.....	\$5.00
" " 167539, " " 100.....	3.50
" " 167539, " " 500.....	14.50





Type A Trumbull Motor Starting Switches

Tables Giving Catalogue Numbers and Ratings of Protective Cutouts

To Be Used with Motors of Various Phase, Voltage, Ampere Capacity and Horse Power Permitting Motors to Carry 10 per cent Overload

110 Volts A.C.

Motor H.P.	THREE PHASE		TWO PHASE		SINGLE PHASE	
	Amp. of Motor	Cat. No. of Cutout to Use	Amp. of Motor	Cat. No. of Cutout to Use	Amp. of Motor	Cat. No. of Cutout to Use
1/4	2.4	256921	2.0	256919	6.0	256926
1/2	4.4	256924	3.8	256923	7.5	256928
3/4	6.2	256927	5.5	256926	10.0	256929
1	8.0	256928	7.0	256927	12.5	256930
1 1/2	10.3	256929	8.0	256928	18.0	256932
2	12.5	256931	11.0	256930	24.0	.....
3	18.0	256932	15.8	256931	34.0	.....
4	24.0	.....	21.0	.....	.....	.....
5	30.0	.....	36.2	.....	.....	.....

220 Volts A.C.

Motor H.P.	Amp. of Motor	Cat. No. of Cutout to Use	Amp. of Motor	Cat. No. of Cutout to Use	Amp. of Motor	Cat. No. of Cutout to Use
1/4	1.2	256917	1.0	256916	2.0	256920
1/2	2.2	256921	1.9	256920	3.75	256923
3/4	3.1	256922	2.8	256922	5.0	256925
1	4.0	256924	3.5	256923	6.25	256927
1 1/2	5.1	256925	4.5	256925	9.0	256929
2	6.25	256927	5.5	256926	12.0	256930
3	9.0	256929	7.9	256928	17.0	256932
4	12.0	256930	10.5	256930	22.0	.....
5	15.0	256932	13.1	256931	28.0	.....
7 1/2	22.0	.....	19.3	.....	.....	.....
10	29.0	.....	25.4	.....	.....	.....

440 Volts A.C.

Motor H.P.	THREE PHASE		TWO PHASE	
	Amp. of Motor	Cat. No. of Cutout to Use	Amp. of Motor	Cat. No. of Cutout to Use
1/4	0.6	256913	0.5	256913
1/2	1.1	256916	0.95	256915
3/4	1.6	256919	1.4	256917
1	2.0	256920	1.75	256919
1 1/2	2.6	256921	2.25	256921
2	3.2	256923	2.75	256922
3	4.5	256925	4.0	256924
4	6.0	256926	5.0	256926
5	7.5	256928	6.6	256927
7 1/2	11.0	256930	9.7	256929
10	14.5	.....	12.7	.....

550 Volts A.C.

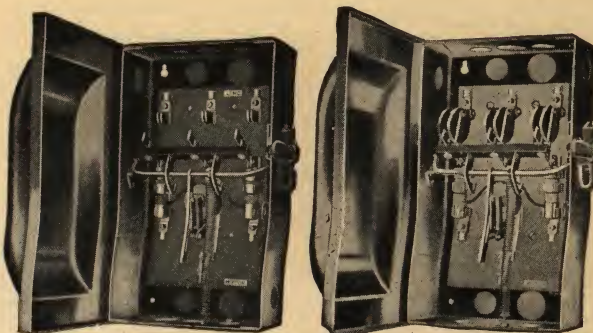
Motor H.P.	Amp. of Motor	Cat. No. of Cutout to Use	Amp. of Motor	Cat. No. of Cutout to Use
1/4	0.5	256913	0.45	256913
1/2	0.9	256915	0.8	256914
3/4	1.3	256917	1.1	256916
1	1.6	256919	1.4	256918
1 1/2	2.1	256920	1.8	256919
2	2.5	256921	2.2	256921
3	3.6	256923	3.2	256923
4	4.8	256925	4.25	256924
5	6.0	256926	5.25	256925
7 1/2	8.8	256929	7.75	256928
10	12.0	.....	10.5	.....

Cat. Nos. and Ampere Capacity of Protective Cutouts

Cat. No.	Amp.	Cat. No.	Amp.
256913	0.8	256923	4.3
256914	0.95	256924	5.1
256915	1.1	256925	6.0
256916	1.3	256926	7.1
256917	1.5	256927	8.4
256918	1.8	256928	10.0
256919	2.1	256929	11.8
256920	2.5	256930	14.0
256921	3.0	256931	16.6
256922	3.6	256932	20.0

Type A Trumbull Safety Motor Starting Switches

With Inverse Time Element Overload Relays and Under Voltage Release



No. 86321

No. 96351

Prices include under voltage release coil but do not include relays.

The 2 and 3 pole switches weigh approximately 25 pounds each; 4 pole switches weigh approximately 35 pounds each.

Quick Break—Single Phase—2 Pole

3 H. P., 110 Volts—5 H. P., 220 Volts

One overload relay needed for single phase.

Cycles	110 VOLTS		220 VOLTS		*440 VOLTS		*550 VOLTS	
	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
60	95211	\$19.00	95221	\$19.00	95251	\$21.50	95261	\$22.50
25	85211	19.00	85221	19.50	85251	26.00	85261	27.00

Quick Break—3 Phase—3 Pole

5 H. P., 110 V.—10 H. P., 220 V.—10 H. P., 440 V.—10 H. P., 550 V.

Two overload relays needed for three phase.

60	96311	\$21.50	96321	\$21.50	96351	\$24.50	96361	\$26.00
25	86311	21.50	86321	22.50	86351	31.00	86361	29.50

Quick Break—2 Phase, 3 Wire—3 Pole

5 H. P., 110 V.—10 H. P., 220 V.—10 H. P., 440 V.—10 H. P., 550 V.

Two overload relays needed for two phase, 3 wire.

60	98311	\$22.50	98321	\$22.50	98351	\$27.00	98361	\$29.00
25	88311	22.50	88321	24.50	88351	31.50	88361	33.00

Quick Break—2 Phase, 4 Wire—4 Pole

5 H. P., 110 V.—10 H. P., 220 V.—10 H. P., 440 V.—10 H. P., 550 V.

Two overload relays needed for two phase, 4 wire.

60	99411	\$29.50	99421	\$29.50	99451	\$35.50	99461	\$39.00
25	89411	29.50	89421	32.50	89451	41.00	89461	43.50

*The 440 and 550-volt, A. C. switches are equipped with Snuf-Arcs.

Trumbull Overload Relays

For Motor Starting Switches

Inverse Time Element



These relays are in capacities from 1 to 36 amperes and are effective on any voltage up to 600 V.A.C. or 250 V.D.C.

Switches for potentials above 250

volts are furnished with Snuf-Arcs.

The relays are all of the same size and are similar to a cartridge fuse being held in place by standard 60-ampere fuse clips.

The spacing, however, between clips is such that a cartridge fuse cannot be substituted. Inserting the relay into clips makes all the necessary connections. There are no auxiliary wires to be connected to it.

Relays do not require replacing as do fuses.

Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
9571	1	\$2.40	9575	5	\$2.40	95716	16	\$2.40
9571 1/2	1 1/2	2.40	9576	6	2.40	95718	18	2.40
9572	2	2.40	9577	7	2.40	95720	20	2.40
9572 1/2	2 1/2	2.40	9578	8	2.40	95724	24	2.40
9573	3	2.40	9579	9	2.40	95728	28	2.40
9573 1/2	3 1/2	2.40	95710	10	2.40	95732	32	2.40
9574	4	2.40	95712	12	2.40	95736	36	2.40
9574 1/2	4 1/2	2.40	95714	14	2.40	.....	.....	.....



Wiring Connections for Trumbull Type A Motor Starting Switches and with U.V.R. Coil and Inverse Time Element Overload Relays

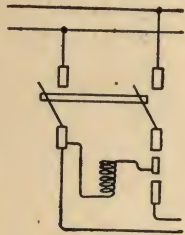


Fig. 1
Coil Wound for
Line Voltage

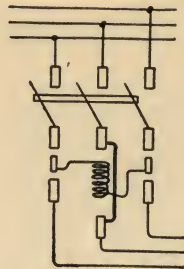


Fig. 2
U.V.R. Coil Wound
Phase Voltage

Wiring diagrams for Type A motor starting switches with inverse time element overload relays and under voltage release.

Fig. 1 shows wiring connections for single-phase or D.C. switches. Cat. Nos. 95211, 95221, 95251, 95261 (60-cycle); Nos. 85211, 85221, 85251, 85261 (25-cycle).

Fig. 2 shows wiring connections for 3-phase switches. Cat. Nos. 96311, 96321, 96351, 96361 (60-cycle); Nos. 86311, 86321, 86351, 86361 (25-cycle).

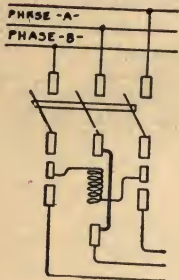


Fig. 3
U.V.R. Coil Wound for
141-phase Voltage

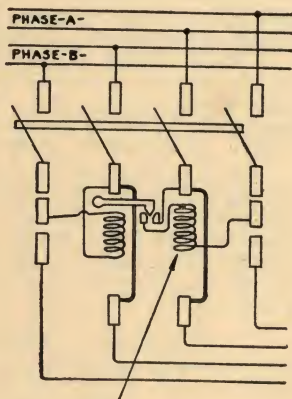


Fig. 4
Both Coils Wound
for Phase Voltage

Fig. 3 shows wiring connections for 2-phase 3-wire switches. Cat. Nos. 98311, 98321, 98351, 98361 (60-cycle); Nos. 88311, 88321, 88351, 88361 (25-cycle).

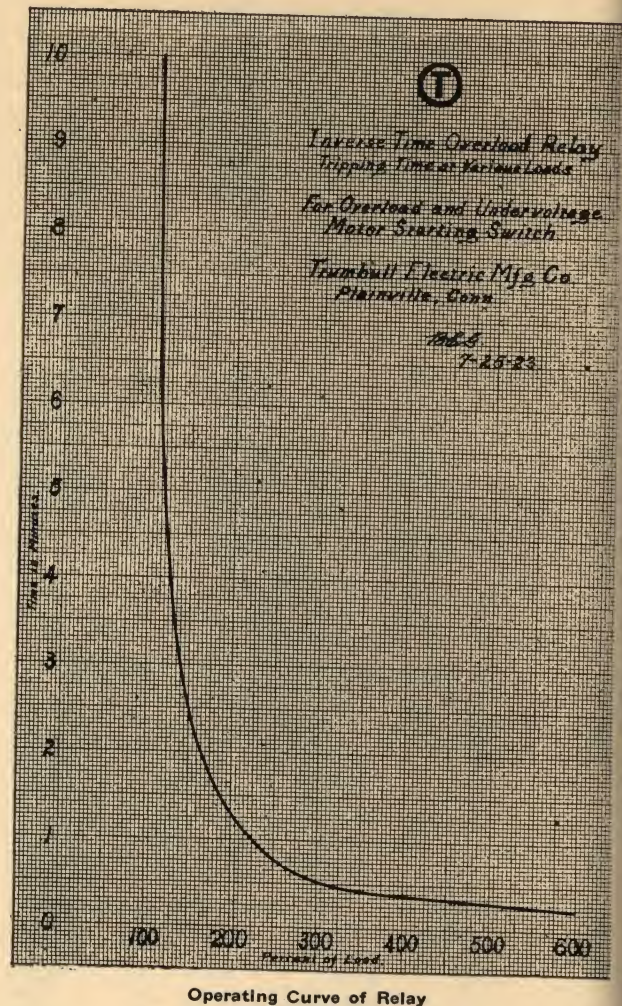
Wiring in Fig. 3 is same as in Fig. 2. Switches are exactly the same except U.V.R. coils. Three-phase 3-wire coils are wound for 220, 440, 550 volts respectively, and 2-phase 3-wire coils are wound for 311, 620, 776 volts respectively. The common wire must be connected through the middle leg of switch.

Fig. 4 shows wiring for 2-phase 4-wire switches. Cat. Nos. 99411, 99421, 99451, 99461 (60-cycle); Nos. 89411, 89421, 89451, 89461 (25-cycle).

These overload relays do not prevent the motor from running single-phase if the load on the motor is not heavy enough to cause any damage to the motor. But if single-phase load is heavy enough to damage the motor, such load will cause the relay to open the switch. This switch will absolutely protect the motor from damage through single phase operation.

Chart Showing Operating Curve of Trumbull Inverse Time Element Overload Relays

Description of Chart



Figures at left 0 to 10 designate time in minutes.

Figures at bottom 100 to 600 designate per cent of load.

To ascertain the time it takes for overload relay to trip open the switch (a) determine the per cent of load for example, 200 per cent. Follow the vertical line running from the figure 200 until it crosses the curve on the chart; (b) from this point of intersection follow the horizontal line to the left until it intersects the column showing the minutes. In the case of 200 per cent load, such line intersects at the minute and a quarter point.

Hence on a 200 per cent load, the relay trips open the switch in about 75 seconds; on a 300 per cent load in about 30 seconds; 400 per cent in 25 seconds; 500 per cent in 20 seconds and 600 per cent in 15 seconds.

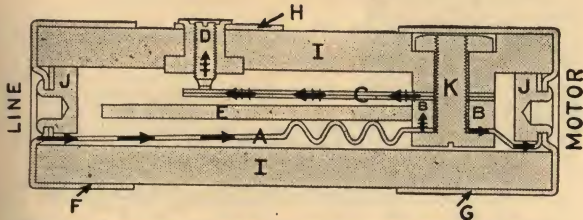
This description explains the term Inverse Time Element Overload Relay because the greater the load the less time it takes to operate (open).

This operating curve drawn from actual tests extending over a preliminary development period of nearly three years is of real interest to all engineers in industrial plants, central stations and elsewhere.

Each relay before shipment, is tested and calibrated individually.



Detailed Description of Trumbull Overload Relays as Used with Motor Starting Switches



Showing Section of Inverse Time Element Overload Relay
Fig. 1

Black arrows show flow of current from line through contact clip at ferrule F, through heating element A through contact clip at ferrule G to motor. (See Fig. 4.)

Arrows with cross lines show connections to UVR coil from heating element A through copper block B, through thermostatic element C, through contact screw D through contact clip H to UVR coil circuit.

- A.—Shows heating element connecting line to motor.
- B.—Copper block connecting A to thermostatic element C.
- C.—Thermostatic element making contact at D.
- D.—Silver tipped contact screw making contact to UVR coil circuit.
- E.—Strip of asbestos, shielding thermostatic element C from direct heat of heating element A to secure the proper time lag.
- F.—Ferrule contacting in fuse clip to line side.
- G.—Ferrule contacting in fuse clip to motor side.
- H.—Ferrule contacting in fuse clip to UVR coil circuit
- I.—Relay shell-moulded asbestos.
- J.—Ferrule anchor (copper).
- K.—Fastening screw for B.

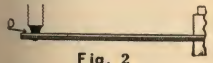


Fig. 2

Thermostatic element breaking contact at D (Fig. 1) under overload. When trouble is removed thermostatic element cools off and resets itself as shown in Fig. 2.



Fig. 3

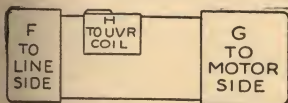


Fig. 4

Showing ferrule (see description of Fig. 2.)

In case of overload, excess heat in element A is communicated to thermostatic element C through copper block B, causing it to draw away from contact D (Fig. 3), thus breaking circuit to U. V. R. Coil (through contact slip at ferrule H). Switch opens and motor is cut out.

NOTE.—The thermostatic element consists of a strip of brass about $\frac{1}{4}$ inch thick, $\frac{1}{4}$ inch wide and strip of steel of same dimensions, electrically welded together to form one strip.

The tendency of brass is to expand under heat. The steel is of special quality, with practically no tendency to expand when heated. When heat is applied to this bi-metallic strip, the brass side expands while the steel remains stationary. This naturally will cause metal to curve, the brass taking the outside of the curve. As applied to the element the brass is on side toward contact screw and when heated from overload will, as explained above, bend and break circuit at D.

Type C Trumbull Externally Operated Switches

250 Volts D.C. and 500 Volts A.C.

No Fuse, Single Throw, Quick Break

The Type C line has no interlocking features. The switch itself is the best type of punched-clip construction obtainable.

Box is same as used with Type A Switches.

Handle is of heavy steel rod—it will not bend or break in shipping or in using.

Button-holes in rear of box at top with which to hang box in position until ready to fasten permanently.

Boxes increased in length and width for convenience in wiring.

On request, solid neutral furnished on 3-pole switches at regular prices.

Cat. No.	Amperes	No. of Poles	Volts	Shipping Wt. Each, Lbs.	Price Each
20221	30	2	250	6	\$4.25
20321	30	3	250	9	5.50
20421	30	4	250	11	7.00
20251	30	2	500 A.C.	11	6.75
20351	30	3	500 A.C.	13	7.00
20451	30	4	500 A.C.	20	9.50
20222	60	2	250-500	11	7.50
20322	60	3	250-500	13	8.00
20422	60	4	250-500	21	10.00
20223	100	2	250-500	16	9.50
20323	100	3	250-500	18	10.50
20423	100	4	250-500	34	16.50
20224	200	2	250-500	22	16.00
20324	200	3	250-500	34	19.50
20424	200	4	250-500	50	30.50

Type C Trumbull Externally Operated Switches

250 Volts D.C. and 500 Volts A.C.

For Enclosed Fuses at Bottom, Single Throw Quick Break

This line of switches does not have the interlocking features of Type A.

Knockouts in each end and side of box.

Handle of heavy steel rod.

Button-holes in rear of box at top with which to hang box in position until ready to fasten permanently.

On request solid neutral furnished on 3-pole switches at regular list.



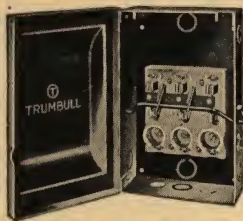
Cat. No.	Amperes	No. of Poles	Volts	Shipping Wt. Each, Lbs.	Price Each
40221	30	2	250	8	\$4.50
40321	30	3	250	9	6.00
42321	30	3SN	125-250	9	6.00
40421	30	4	250	14	7.50
40251	30	2	500 A.C.	18	7.50
40351	30	3	500 A.C.	19	8.25
40451	30	4	500 A.C.	28	10.50
40222	60	2	250	12	7.50
40322	60	3	250	17	8.25
42322	60	3SN	125-250	17	8.25
40422	60	4	250	25	10.50
40252	60	2	500 A.C.	18	8.00
40352	60	3	500 A.C.	20	9.00
40452	60	4	500 A.C.	27	11.25
40223	100	2	250	23	10.50
40323	100	3	250	30	13.50
42323	100	3SN	125-250	30	13.50
40423	100	4	250	66	22.50
40253	100	2	500 A.C.	33	12.00
40353	100	3	500 A.C.	35	14.50
40453	100	4	500 A.C.	66	22.50
40224	200	2	250	36	17.00
40324	200	3	250	50	23.00
42324	200	3SN	125-250	50	23.00
40424	200	4	250	92	36.00
40254	200	2	500 A.C.	71	24.00
40354	200	3	500 A.C.	75	27.50
40454	200	4	500 A.C.	96	38.00

SN designates solid neutral.



Trumbull Externally Operated Entrance Switches

125 Volts, 30 Amperes
For Plug Fuses, at Bottom



Closed Ends

Switch is mounted on porcelain base.

Nos. 5793 and 5893, quick break.

No. 5893 has solid neutral.

Switches are constructed with solid ends and are designed for regular service.

No. 5793		SIZE BOX, INCHES		Depth	Std. Pkg.	Wt., Lbs. Carton of 10	Price Each
Cat. No.	No. of Poles	Width	Height				
5791	2	5	8 $\frac{3}{8}$	3 $\frac{7}{8}$	20	47	\$2.00
5793	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	20	70	3.00
5893	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	20	70	3.00

Trumbull Externally Operated Entrance Switches

125 Volts, 30 Amperes
For Plug Fuses, at Bottom

Open Ends for Use with Meter Trim

Switch is mounted on porcelain base. The end wall trims fit over the meter terminal chamber and are so designed as completely to close the end of box.

Nos. 5793A and 5893A, quick break.

No. 5893A has solid neutral.

No. 5893A		SIZE BOX, INCHES		Depth	Std. Pkg.	Wt., Lbs. Carton of 10	Price Each
Cat. No.	No. of Poles	Width	Height				
5791A	2	5	8 $\frac{3}{8}$	3 $\frac{7}{8}$	20	50	\$2.00
5793A	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	20	72	3.00
5893A	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	20	72	3.00

Kappa Type Trumbull Externally Operated Entrance Switches



250 Volts, 30 Amperes

No Fuse

This switch is the regular Kappa punched-clip type, externally operated. It is equipped with quick break mechanism, and is mounted on slate base.

Made in 30-ampere size only, two or three poles.

No. 13641		SIZE BOX, INCHES		Depth	Std. Pkg.	Wt. Lbs. Carton of 10	Price Each
Cat. No.	No. of Poles	Width	Height				
13640	2	5	8 $\frac{3}{8}$	3 $\frac{7}{8}$	20	50	\$2.30
13641	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	10	78	3.50

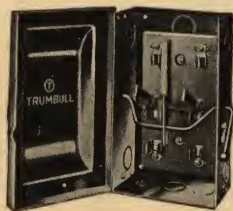
Kappa Type Trumbull Externally Operated Entrance Switches

250 Volts, 30 Amperes
For Enclosed Fuses at Bottom

Open Ends for Use with Meter Trims

Switch used is the Kappa punched-clip type, mounted on slate base. Quick break mechanism.

End wall trims fit over the meter terminal chamber and are so designed as completely to close the end of box.



No. 13642A		SIZE BOX, INCHES		Depth	Std. Pkg.	Wt., Lbs. Carton of 10	Price Each
Cat. No.	No. of Poles	Width	Height				
13642A	2	5	8 $\frac{3}{4}$	3 $\frac{7}{8}$	20	50	\$2.50
13643A	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	10	78	3.90
13743A	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	10	78	3.90

Kappa Type Trumbull Externally Operated Entrance Switches

250 Volts, 30 Amperes



For Enclosed Fuses at Bottom
Closed Ends

Switch used is the regular Kappa punched-clip type, mounted on slate base. Equipped with quick break mechanism. Made in 30-ampere size only, two and three poles.

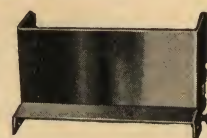
No. 13743 has solid neutral.

No. 13642		SIZE BOX, INCHES		Depth	Std. Pkg.	Wt., Lbs. Carton of 10	Price Each
Cat. No.	No. of Poles	Width	Height				
13642	2	5	8 $\frac{3}{8}$	3 $\frac{7}{8}$	20	50	\$2.50
13643	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	10	78	3.90
13743	3	6 $\frac{3}{4}$	10 $\frac{1}{8}$	3 $\frac{7}{8}$	10	78	3.90

Trumbull End Wall Trims



No. 5730



No. 5731



Nos. 5732, 5735



No. 5736

Trims, Back Plates and Blank End Walls

These trims fit into ends of boxes.

Nos. 5730, 5732, 5736, 5737, 5738, and 5739 may be assorted to make standard package. Nos. 5733, 5734, and 5735 may be assorted.

Cat. No.	Description	Std. Pkg.	Price Each
5730	Sangamo H-2	20	\$.32
5731	GE 1-14	20	.32
5732	West OA (Small Terminal Chamber)	20	.32
5737	" OA (Large " ")	20	.32
5738	Duncan M-2	20	.32
5733	Back Plate for Sangamo H-2	20	.16
5734	" " " GE 1-14	20	.16
5735	" " " West OA	20	.16
5736	Blank End Wall	20	.16
5739	End Wall having Porcelain Insert, 5 Wire Holes	10	.32
5740	GE C-6 D. C. 5-50 Amp.	20	3.00
5745	GE D-6 Polyphase, 5-25 Amp.	20	3.50
5746	West OA " 5-75 "	20	2.00

Trumbull Knockouts to Entrance Switches

Blank End Wall

One $\frac{3}{4}$ -inch and two $\frac{1}{2}$ -inch knockouts.

Rear

Two-pole: One $\frac{3}{4}$ -inch and four $\frac{1}{2}$ -inch knockouts.

Three-pole: Two $\frac{3}{4}$ -inch and four $\frac{1}{2}$ -inch knockouts.

Sides

Left, two and three-pole: Two $\frac{3}{4}$ -inch and two $\frac{1}{2}$ -inch knockouts.

Right, two-pole: Two $\frac{3}{4}$ -inch and one $\frac{1}{2}$ -inch knockouts.

Right, three-pole: Two $\frac{3}{4}$ -inch and two $\frac{1}{2}$ -inch knockouts.

Bottom

One $\frac{3}{4}$ -inch and two $\frac{1}{2}$ -inch knockouts.

Packing

All two or three-pole switches are placed in individual pasteboard boxes, shipped in cartons of ten, packed in corrugated paper containers.



Type C Trumbull Externally Operated Entrance Switches

Quick Break

Open Top Ends for Use with Meter Trims



End of Box Cut Away for Trim



Showing how Trim Slides into Open End of Box



Switch with No. 150 Trim

This line of Type C externally operated entrance switches with ends cut away for use with meter trims, meets a growing demand for protection of meter connections on 30-ampere 500-volt, 60, 100, 200-ampere, 250 volt, and 500 V. A. C. entrance switches.

Extra ground lug furnished on fused switches only, on left jaw post of 2-pole and on middle jaw post of 3-pole solid neutral.

Fusible—Single Throw

Cat. No.	Amp.	†Pole	Volt	Shipping Weight Each, Pounds	Price Each
44251	30	2	500AC	17	\$7.50
44351	30	3	500AC	19	8.25
44451	30	4	500AC	25	10.50
44222	60	2	250	12	7.50
44322	60	3	250	17	8.25
45322	60	3SN	250	17	8.25
44422	60	4	250	25	10.50
44252	60	2	500AC	18	8.00
44352	60	3	500AC	20	9.00
44452	60	4	500AC	27	11.25
44223	100	2	250	23	10.50
44323	100	3	250	30	13.50
45323	100	3SN	250	30	13.50
44423	100	4	250	66	22.50
44253	100	2	500AC	33	12.00
44353	100	3	500AC	35	14.50
44453	100	4	500AC	66	22.50
44224	200	2	250	36	17.00
44324	200	3	250	50	23.00
45324	200	3SN	250	50	23.00
44424	200	4	250	92	36.00
44254	200	2	500AC	71	24.00
44354	200	3	500AC	75	27.50
44454	200	4	500AC	96	38.00

†S. N. designates solid neutral.

Trumbull Meter Protective Trims

For Use with 30 Amp. 500 V. A. C., 60, 100, 200 Amp. 250 V., 500 V. A. C. Type C Entrance Switches and Single-phase Meters

The meter end of the trim is made to fit the meter terminal chamber; the box end of the trim is made to fit the particular size of box with which it is to be used.

The combinations of sizes most frequently used are listed below in one unit.



No. 150



No. 161

For G-E I-14 or Fort Wayne K-5 Meter

Cat. No.	Wire	METERS		SWITCH		Price Each
		Amps.	Volts	Amps.	Volts	
150	2&3	5-25	110-220	60	250	\$.70
151	2&3	50-75	110-220	60	250	.70
152				100	250	.85
153	2	100-300	110-220	100	250	.85
154	3	100-150	110-220	200	250	1.10

For Sangamo H Meter

155	{	2	5-15	100-440	{	30	500 A.C.	.70
		3	5-15	110-220		60	250	
		2	5-15	100-440		60	500 A.C.	
		3	5-15	110-220		60	500 A.C.	
1922 Model								
157	{				{	30	500 A.C.	\$.70
						60	250	
						60	500 A.C.	
158	{	2	25-100	100-440	{	100	250	.85
		3	25-100	100-220		100	500 A.C.	
159	{				{	200	250	1.10
						200	500 A.C.	
						30	500 A.C.	
160	{				{	60	250	.70
						60	500 A.C.	
						100	250	
161	{	2	25-100	100-440	{	100	250	.85
		3	25-100	110-220		100	500 A.C.	
162	{		1922 Model	100	{	200	250	1.10
						200	500 A.C.	
						200	500 A.C.	

For Westinghouse OA Meter

163	2&3	5-20	100-440	{	30	500 A.C.	\$.70
					60	250	
					60	500 A.C.	
					100	250	
164		Small Terminal		{	100	500 A.C.	.85
					60	250	
165		15-75 Large Terminal	100-440	{	60	500 A.C.	.70
					100	250	
166				{	100	500 A.C.	.85
					100	500 A.C.	

For Duncan M-2 Meter

167	{	2	5-25	100-550	{	30	500 A.C.	\$.70
						60	250	
						60	500 A.C.	
						100	250	
169	{	2	50-100	100-550	{	100	500 A.C.	.85
						200	250	
170	{	3	25-100	100-550	{	200	500 A.C.	1.10
						200	500 A.C.	



Trumbull Meter Protective Trims

For Use with 30 Amp., 500 V. A. C., 60, 100, 200 Amp. 250 V., 500 V. A. C. Type C Entrance Switches and D. C. and Polyphase Meters

The meter end of the trim is made to fit the meter terminal chamber; the box end of the trim is made to fit the particular size of box with which it is to be used.

The combinations of sizes most frequently used are listed in one unit.

For G-E D-6 Meter, Polyphase

Wire	METERS Amps.	Volts	SWITCH Amps. Volts	Cat. No.	Price Each
3 or 4	5-25	100-600	30 500 A.C.	186	\$6.00
			60 250		
			60 500 A.C.		
3 or 4	50-75	100-600	60 250	187	8.00
			60 500 A.C.		
			100 250	188	*
			100 500 A.C.		
3 or 4	100-150	100-600	100 250	189	8.00
			100 500 A.C.		
			200 250	190	*
			200 500 A.C.		

For G-E D-3 Meter, Polyphase

3 or 4	3-75	100-600	30 500 A.C.	183	*
			60 250		
			60 500 A.C.	184	*
			100 250		
3 or 4	100-150	100-600	100 500 A.C.	184	*
			100 250		
			200 250	185	*
			200 500 A.C.		

For G-E C-6 Meter, D. C.

2 or 3	5-50	100-240	30 500 A.C.	173	3.50
			60 250		
3	5-50	400-500	60 500 A.C.	174	3.50
			100 250		
3	75	220	100 500 A.C.	175	*
			100 250		
3	100-150	220	100 250	176	*
			200 250		
2	100-150	110-220	200 250	177	*
			200 500 A.C.		

For G-E C-7 Meter, D. C.

2	5-50	600	60 500 A.C.	178	4.10
			100 500 A.C.		

For G-E C-12 Meter, D. C.

2	5-25	100-250	30 500 A.C.	180	3.50
			60 250		
3	5-25	200-500	60 500 A.C.	181	3.50
			100 250		
2	5-25	100-250	100 500 A.C.	181	3.50
			100 250		
3	5-25	200-500	100 500 A.C.	181	3.50
			100 250		

For Sangamo H Meter, Polyphase

3 or 4	All Amps.	100-440	30 500 A.C.	192	*
			60 250		
			60 500 A.C.	193	*
			100 250		
			100 500 A.C.	194	*
			200 250		
			200 500 A.C.	194	*

For Sangamo D-5 Meter D. C.

3	All Amps.	100-220	60 250	196	*
			100 250		
			200 250		

For Westinghouse OA Meter, Polyphase

3 or 4	5-75	100-440	30 500 A.C.	199	8.50
			60 250		
			60 500 A.C.	200	*
			100 250		
			100 500 A.C.	201	8.50
			100 250		
3 or 4	100-150	100-440	200 250	202	8.50
			200 500 A.C.		

*Prices on request.

Trumbull Circle-T Meter Service Switches

As Specified by

The Edison Illuminating Company
Boston, Mass.

These switches are similar to other Circle-T Meter Service and Main Entrance Switches except that they have bussing lugs and the knockouts and the troughs in the side of the boxes are 1¼-inch.

Meter Service Switches



No. 16875, for Use with Meter End Wall

3-pole for 2 or 3-wire Service

Cat. No.	Amp.	Voltage	Pole	Type Fuse	Std. Pkg.	Price, Each without End Wall
16875	30	125-250	3	Plug	10	\$5.85
16876	60	125-250	3	Enclosed	5	13.30
16877	100	125-250	3	"	2	21.80

For 2-wire Use Only

16874	30	250	2	Enclosed	10	\$5.10
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60-ampere Lugs for Bussing

Cat. No.	Std. Pkg.	Price, Each
13184	50	\$1.12

Blank end walls with knockouts can be furnished.

Main Entrance or Fire Switches



No. 16870, Solid Ends

For 2 or 3-wire Service

Cat. No.	Amp.	Voltage	Pole	Type Fuse	Std. Pkg.	Price, Each with End Wall
16870	30	125-250	3	Plug	10	\$6.25
16871	60	125-250	3	Enclosed	5	14.20
16872	100	125-250	3	"	2	22.90

2 or 3-wire Service—30-ampere Enclosed Fuse

16880	30	125-250	3	Enclosed	30	\$6.25
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Price includes end wall.

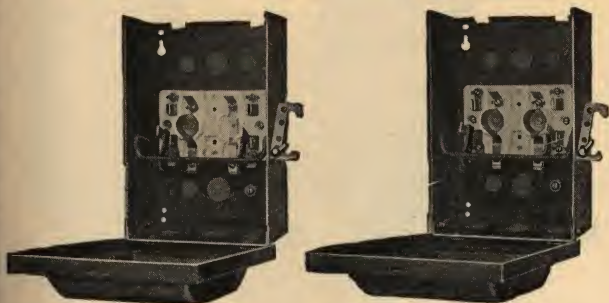
If for any reason solid end walls are not needed, deduct from price for 30-ampere, 40 cents; for 31 to 100-ampere, \$1.10.



Trumbull "Circle T" Meter Service Switches

Standardized Type
For Single-phase or D.C. with Testing Contact
For Plug or Enclosed Fuses

30, 60 and 100 Amperes, 2 and 3-wire—125 or 250 Volts



No. 16300, 30-amp.
2-pole for One Plug
Fuse Only; Grounded Leg
Not Fused (1 Fuse, 2 Blades)

No. 16306, 30-amp.
2-pole for Plug
Fuses
(2 Fuses, 2 Blades)

The Trumbull "Circle T" line of meter service switches represents a standardized system of entrance service through meters. The boxes are arranged for meter end walls interchangeable with those made by all manufacturers of standardized meter service switches.

This system of entrance service includes in one unit an externally operated switch, cutout and meter testing connections and encloses the meter terminals chamber and all conductors leading between the switch and meter.

The terminal chamber of the meter projects into the box through an open end for top or bottom connections. An end wall is fitted tightly over the terminal chamber of any type of meter used, thus giving a completely enclosed unit with full safety against tampering, theft of current or personal contact.

The switch is operated by a handle on outside of box and can be locked or sealed in open or closed position by means of an outside locking shelf.

The cover of box can be sealed with one seal which protects both meter, switch and main fuses.

When a central station puts a seal upon the box with the permission of the public service commission the apparatus covered by the seal will not give trouble.

The advantages of this standardized line are as follows:

STANDARDIZATION.—Removable end walls notched out for meters, and all other accessories are interchangeable with similar material sold by other manufacturers of this standardized type and sold under the same patents. All conduit holes for ganging are on same level. This gives a standardization in service switches and in meter protection that has been welcomed by public service companies all over the country. It does away with the infinite confusion arising from an indefinite variety of switches in all sorts of enclosing cases, equipped with every kind of meter protection, none of which are interchangeable or operate or look alike. The early use of this standardized meter service will avoid annoyance and expense to customer, central station and contractor.

COMPLETE UNIT.—No wires need be disconnected, as the testing contacts are arranged in permanent position and meter testing is effected in minimum time by merely placing testing clips over contacts, with no interruption in service to customer.

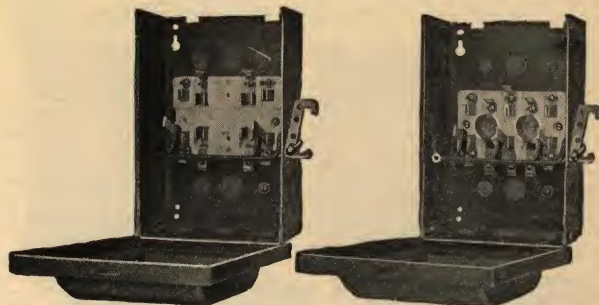
It functions both as a cutout and switch for service and a switch for meter testing, presenting in one cabinet a fire-proof enclosure with full protection against tampering and theft.

As the meter terminal chamber rests in the box no extension trims are needed.

This unit incorporates in itself; protection against accidental personal contact, a service cutout, a service switch, a meter testing device, a protection against theft and tampering, and a lock out when service is suspended.

Trumbull "Circle T" Meter Service Switches

Continued



No. 16321, 30-amp.
2-pole for Enclosed
Fuses (2 Fuses, 2 Blades)

No. 16307, 30-amp.
3-pole for Plug Fuses,
All Blades Connected to
Yoke (2 Fuses, 3 Blades)

DISTRIBUTION CUTOUTS.—Porcelain distribution cutout blocks accessible to the customer without opening the cabinet can be inserted in the side walls of box and sign receptacle can be placed in lower end, affording a further saving in space and material by eliminating the necessity of a branch cutout box.

CONVENIENCE IN INSTALLATION.—There is an unusually large space in each end of box for convenience in wiring adaptable to either open or any form of conduit wiring.

A U-shaped twist-out in each side of box allows for use of wire channels in ganging boxes. In this twist-out are convenient knockouts, so various sizes of conduit can be used in ganging.

The U-shaped twist-out should not be hammered out but twisted out with pliers.

There is ample room for making connections necessary in ganging.

Although there is room for all connections the switch is so designed that size of box is compact.

Outside locking device allows switch to be sealed or locked either on or off.

There are suitable knockouts $\frac{1}{2}$ and $\frac{3}{4}$ inch on all sides and back of box, beside the large U-shaped twist-outs in sides for use in ganging.

End walls are adapted to fit all types of meters.

A grounding connection is placed on box, also a lug on outside, either of which can be used for grounding.

Button hole type of fastening screw holes used for convenience in installing.



1.—Open end for interchangeable end wall, top or bottom.

2.—Testing contacts.

3.—A m p l e variety and sizes of knockouts.

4.—Clamps or lugs for use in ganging.

5.—L a r g e amount of room for wiring.

6.—Shelf for locking switch off or on.

7.—Knockout for ganging with conduit.

8.—Twist-out for ganging with trough.

9.—Grounding screw.

10.—Panel or drawn cover.

11.—Button hole for convenience installing.

12.—Slot for sealing.

13.—Externally operating handle.

14.—Grounding lug.



Trumbull "Circle T" Meter Service Switches

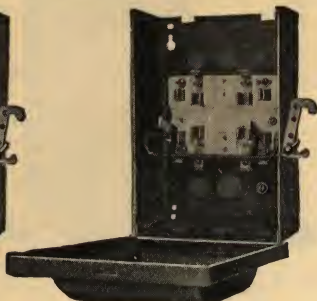
Without End Walls

For Single Phase or D.C. with Testing Contact for Plug or Enclosed Fuses

30 and 60 Amperes, 2 and 3-pole, 125 or 250 Volts



No. 16306



No. 16321

This line of meter service switches is for single customer service in individual or in banked or ganged installations as in apartment houses. Equipped with testing clips.

End walls for any given meter are listed separately, including blank end plate with knockouts.

Same sized box used for 2-pole and 3-pole switches.

Nos. 16300—16309

Grounded Leg Not Fused, Solid Strap—One Plug Fuse

Cat. No.	Amp.	No. of Poles	No. of Blades	Volts	Std. Pkg.	Carton	Without End Walls	With End Walls
16300	30	2	2	125	10	10	\$5.10	\$5.50

Two Fuses, Two Blades

16306	30	2	2	125	10	10	5.10	\$5.50
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Neutral Blade Attached to Yoke—Two Plug Fuses

16307	30	3	3	125-250	10	10	5.85	\$6.25
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Neutral Blade Detached from Yoke—Two Plug Fuses

16308	30	3	*3	125-250	10	10	5.85	\$6.25
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Neutral Screw, Disconnecting Strap—Two Plug Fuses

16309	30	3	2	125-250	10	10	5.85	\$6.25
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Nos. 16315—16324

Grounded Leg Not Fused, Solid Strap—One Enclosed Fuse

16315	30	2	2	250	10	10	\$5.10	\$5.50
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Two Fuses, Two Blades

16321	30	2	2	250	10	10	5.10	\$5.50
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Neutral Screw, Disconnecting Strap—Two Enclosed Fuses

16322	30	3	3	250	10	10	5.85	\$6.25
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Neutral Blade Attached to Yoke—Two Enclosed Fuses

16323	30	3	*3	250	10	10	5.85	\$6.25
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Neutral Screw Disconnecting Strap—Two Enclosed Fuses

16324	30	3	2	250	10	10	5.85	\$6.25
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Nos. 16330—16338

Grounded Leg Not Fused, Solid Strap—One Enclosed Fuse

16330	60	2	2	250	4	5	\$12.10	\$13.20
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Two Fuses, Two Blades

16335	60	2	2	250	4	5	12.10	\$13.20
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Neutral Blade Attached to Yoke—Two Enclosed Fuses

16336	60	3	3	250	4	5	13.30	\$14.40
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Neutral Blade Detached from Yoke—Two Enclosed Fuses

16337	60	3	*3	250	4	5	13.30	\$14.40
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Neutral Strap—Two Enclosed Fuses

16338	60	3	2	250	4	4	13.30	\$14.40
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*Neutral blade can be opened for testing or other purposes. Outside blades cannot be closed without closing neutral blade.

Trumbull Distribution Cutout Blocks



No. 5850 Open

Price, No. 5850, Two-pole with Cover each \$1.40
" " 5851, " without " " 1.15

When box is sealed main fuses are inaccessible to customer. Branch fuses accessible to customer may be furnished without installing another box or cabinet by placing No. 5850 2-pole covered blocks in the U-shaped twist-outs in sides of box, or by inserting a pair of Federal Sign Receptacles in special knockouts in bottom of box. Two No. 5850 blocks may be installed which will provide for two branch circuits.

Trumbull "Circle T" Main Entrance Switches

For Single Phase or D.C., for Plug or Enclosed Fuses

30, 60 and 100 Amperes, 2 and 3-pole, 125 or 250 Volts



No. 16365



No. 16377

This line covers main entrance switches placed ahead of banked meter installation to control the entire service. Such switches are usually required in banked installations.

These switches represent a new addition to the meter service switch line. They are placed in the same standardized boxes, take the same end plates, may be connected to the meter service boxes with standardized troughs.

By using these switches the entire banked installation or ganging is uniform, giving maximum of convenience, safety and excellent appearance.

Unless ordered otherwise, any given catalogue number will include the end plate, as such end plate is a part of the unit. If end plate is not desired, specify on order.

The same sized box is used for 2-pole and 3-pole switches. No. 5836 end plate is furnished with all 30 ampere; No. 6876 with all 60 and 100 ampere switches.

Nos. 16361—16368

Grounded Leg Not Fused, Solid Strap—One Plug Fuse

Cat. No.	Amp.	No. of Poles	No. of Blades	Volts	Std. Pkg.	Carton	Without End Plate	End Plate	Comp. With Plate
16361	30	2	2	125	10	10	\$5.10	\$.40	\$5.50
Two Plug Fuses, Two Blades									
16365	30	2	2	125	10	10	5.10	.40	\$5.50
Neutral Blade Attached to Yoke—Two Plug Fuses									
16366	30	3	3	125-250	10	10	5.85	.40	\$6.25
Neutral Blade Detached from Yoke—Two Plug Fuses									
16367	30	3	*3	125-250	10	10	5.85	.40	\$6.25
Neutral Screw, Disconnecting Strap—Two Plug Fuses									
16368	30	3	2	125-250	10	10	5.85	.40	\$6.25

Nos. 16371—16378

Grounded Leg Not Fused, Solid Strap—One Enclosed Fuse									
16371	30	2	2	250	10	10	\$5.10	\$.40	\$5.50
Two Enclosed Fuses, Two Blades									
16375	30	2	2	250	10	10	5.10	.40	\$5.50
Neutral Blade Attached to Yoke—Two Enclosed Fuses									
16376	30	3	3	250	10	10	5.85	.40	\$6.25
Neutral Blade Detached from Yoke—Two Enclosed Fuses									
16377	30	3	*3	250	10	10	5.85	.40	\$6.25
Neutral Screw, Disconnecting Strap—Two Enclosed Fuses									
16378	30	3	2	250	10	10	5.85	.40	\$6.25

Nos. 16381—16388

Grounded Leg Not Fused, Solid Strap—One Enclosed Fuse									
16381	60	2	2	250	4	5	\$12.10	\$1.10	\$13.20
Two Enclosed Fuses, Two Blades									
16385	60	2	2	250	4	5	12.10	1.10	\$13.20
Neutral Blade Attached to Yoke—Two Enclosed Fuses									
16386	60	3	3	250	4	5	13.30	1.10	\$14.40
Neutral Blade Detached from Yoke—Two Enclosed Fuses									
16387	60	3	*3	250	4	5	13.30	1.10	\$14.40
Neutral Strap—Two Enclosed Fuses									
16388	60	3	2	250	4	5	13.30	1.10	\$14.40

Nos. 16391—16398

Grounded Leg Not Fused, Solid Strap—One Enclosed Fuse									
16391	100	2	2	250	2	1	\$19.80	\$1.10	\$20.90
Two Fuses, Two Blades									
16395	100	2	2	250	2	1	19.80	1.10	\$20.90
Neutral Blade Attached to Yoke—Two Enclosed Fuses									
16396	100	3	3	250	2	1	21.80	1.10	\$22.90
Neutral Blade Detached from Yoke—Two Enclosed Fuses									
16397	100	3	*3	250	2	1	21.80	1.10	\$22.90
Neutral Strap—Two Enclosed Fuses									
16398	100	3	2	250	2	1	21.80	1.10	\$22.90

*Neutral blade can be opened for testing or other purposes. Outside blades cannot be closed without closing neutral blade.

Trumbull "Circle T" Meter Service Switches

For Polyphase Service, 3-wire

Without End Walls, Adapters or Back Plates
3-pole, 125 or 250 Volts

Three Blades and Two Non-switching Test Blades
Three Enclosed Fuses



Handle is uncoupled from fused switching blades when device is used for testing.

Fuse and switch ahead of meter. Non-switching blades after meter.

Cat. No.	Amp.	No. of Poles	Volts	Std. Pkg.	Car- ton	Price Each
931233	30	3	125-250	10	1	\$10. 20
931236	60	3	125-250	4	1	20. 55
931231	100	3	125-250	2	1	26. 95

Adapter Coupling End Walls

Cat. No.	Amp.	Std. Pkg.	Price Each
909233	30	10	\$.55
909236	60	4	1.10
909231	100	2	1.30

Blank End Walls

Cat. No.	Amp.	Knockouts	Std. Pkg	Price Each
909183	30	1-1½ in. 1-double ¾-1 in.	10	\$.55
909413	30	4-½ in.	10	.55
909186	60	1-1 in. 1-double 1¼-1½ in.	4	1.10
909416	60	4-double ¾-1 in.	4	1.10
909481	100	1-1½ in. 1-double 2-2½ in.	2	1.30
909411	100	4-double ¾-1 in.	2	1.30

Meter Adapters

Cat. No.	Meter	Amp.	Std. Pkg.	Price Each
*906553	G-E D-6	5-25	10	\$4.05
906601	G-E D-6	50-75	2	4.60
906631	G-E D-6	100-150	2	5.75
906566	West. DA	5-50	4	4.05
906546	West. C	5-40	4	4.05
906571	Sangamo H	5-100	2	3.45
906971	Duncan M-2	5-100	2	3.45
*906526	†Ft. Wayne K-3	5-50	4	5.20

Back Plates for Adapters

Cat. No.	Meter	Amp.	Std. Pkg.	Price Each
907553	G-E D-6	5-25	10	\$.95
907601	G-E D-6	50-75	2	1.25
907631	G-E D-6	100-150	2	1.25
907566	West. DA	5-50	4	1.00
907546	West. C	5-40	4	1.00
907571	Sangamo H	5-100	2	.90
907971	Duncan M-2	5-100	2	.95
907526	†Ft. Wayne K-3	5-50	4	1.10

*Have sealing straps.

†Types MAA, MAB, MAC, MAD, MAE, MAK, MAL.

NOTE.—When ordering, specify adapters and adapter coupling end walls desired.

Trumbull Wiring Troughs and Covers



No. 5870

Equipped with grounding screw for clamping trough tightly to the grounded box.

After wires are run, cover is placed over trough and held in position by box cover. No wires to pull, no nipples or bushings to bother with.

Standard package, 10.

Cat. No.	Length In.	Price Each	Cat. No.	Length In.	Price Each
5870	2	\$.40	5874	7	\$.70
5871	3	.45	5878	8	.75
5872	4	.50	5875	9	.90
5873	5	.55	5876	10	1.00
5877	6	.60			

Trough Cover Adapting Slides

As 60 and 100-ampere boxes are deeper than a 30-ampere box a trough cover adapting slide is supplied which fills the open space between cover of trough and the upper edge of the box side.



Cat. No.	For Use with Switch Amp.	Std. Pkg.	Price Each
903296	60	4	\$.20
903291	100	2	.20

Padlock Attachments

**For Use with Padlock or Metropolitan Seal on
Any 30, 60 or 100-ampere End Plates**

With this attachment padlock or Metropolitan Seal can be used on any end plate.



No. 5880

PRICE, PER 100		
Cat. No.	Se- parate	*Attached to End Plate
5880	\$8.25	\$13.75
*Add to price of end plate.		

*Add to price of end plate.

Knockout Caps



Round Cap



U-shaped Cap

Price,	1/2-inch	Knockout	Cap,	Roundeach	\$.03
"	3/4	"	"	"	"	.04

Other sizes upon application.04
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Price, 0-30-amp., 2 or 3-wire, U-shaped Cap. . . . each **\$.40**
Standard package, 10.

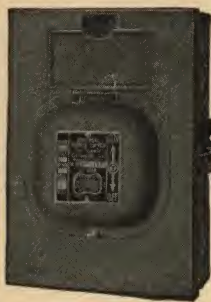


Trumbull "Circle T" Universal Service Switches

For Single Phase and Direct Current Service

30 Amperes—For Plug Fuses Only

Including in one unit, service switch with cutouts, also cutouts for one, two or four branch circuits.



Closed

These Universal Service Switches represent a further development in the standardized type of meter service switches.

They provide everything furnished in the meter service switch line with the following additional features:

1. Service switch and from one to four branch circuits combined on one porcelain base.
2. Enclosing in one cabinet all branch circuit wire connections.
3. Convenient and safe access of branch circuit fuses.

The boxes used with these Universal Service Switches are exactly the same as those used with the meter service switch lines, as to size, knockouts, twistouts for wiring troughs, padlocks, etc.

The same end wall and all standardized accessories such as troughs, padlock attachments, etc., can be used with these Universal Service Switches.



Auxiliary Cover Open
No. 977-123

Construction

Made in 30 amperes, for plug fuses only.

Made in 5 types and 10 wiring combinations.

Provided for 2 or 3 wire main circuits with 2 or 3 wire branch circuits. The branch circuits range from 2 single fused or one double fused, to four circuits single fused or two circuits double fused.

Boxes take regular standardized 30 ampere end walls.

Double covers are used. The main cover is flat, hinged at bottom. In center of main cover is an auxiliary cover which opens onto branch fuses.

Handle can be locked "on" or "off" by seal or by padlock.

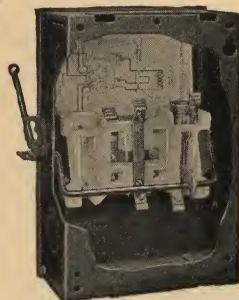
Porcelain base on which switch and fuse parts are mounted is supported on brackets projecting from each side wall of the box.

The main switch is on the rear face of this base.

The main fuses (connected on the service side of meter) are on the upper edge of the base.

The branch or load side fuses are on the front face of the base.

When the main cover is closed, these branch fuses project through an opening in the cover over which is hinged the auxiliary cover.



Rear View No. 971-123
Showing Switch and Straps

The main cover fits closely around the fuse receptacles so as to make it absolutely impossible to fish through into the cabinet from outside when main cover is closed.

Consequently although the fuses connected to the service side of the meter are sealed and accessible only to authorized persons, the load side branch circuit fuses are at all times accessible to the consumer.

End walls and all accessories are interchangeable with those made by any manufacturer of Universal Service Switch Cabinets.

Trumbull "Circle T" Universal Service Switches

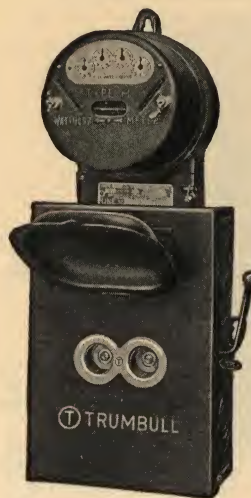
Connections and Circuits

The latest modifications of the National Electrical Code requirements as to the omission of the fuse and switch element in the neutral of the service switch (2 or 3-wire) and the need (under proper ground conditions) of fusing only in the ungrounded leg of branch circuits (2 or 3-wire) were given careful consideration in the design, construction and connection arrangement of the "Circle T" Universal Service Switch.

The five different types in which these switches are made, also, provide for either double fusing and switching in the main or double fusing in the branch circuits.

The main switch is placed ahead of the main service side fuses and both main service side fuses and main switch are ahead of the meter.

Consequently, the main switch controls the main fuses, the meter, the branch fuses and all connected circuits.



No. 971-123
With Meter
Auxiliary Cover Open

The Load-side Branch Circuit Fuses are connected after the meter.

The Load-side Branch Circuit Fuses are always accessible to the consumer.

The Main Service-side Fuses are accessible only to authorized persons.

Any Fuses (main or branch circuit) may be renewed without coming in contact with any live parts.

The arrangements of the terminals simplify the wiring.

The lower edge of the base has all the service side connections, while the upper edge of the base has all the meter connections.

The Load-side Branch Circuit Connections may be either all at one edge or both edges, depending upon the fusing arrangement and number of the branch circuits in the particular device.

There is ample room for making all connections and running bussing-wires through the cabinet.

Suitable testing contacts are provided at the Service and Load-side Meter Connections and at the Load-side Circuit Connections.

The Branch Load-side Fuses, in addition to serving as fuses for the branch circuits also serve as means for opening the load-side of the meter when testing. When so testing, a by-pass with the usual testing clips is connected across from the Service-side Main Fused Switch to the load circuit connection of the Load-side Branch Fuses.

After a by-pass has been placed, the Load-side Fuses are partially unscrewed or removed and thereby free the Load-side Terminals of the meter coil for testing purposes.

The "Circle T" Service Switch combines in one single and compact unit all the functions needed for a complete service connection and branch distribution. There is but one device to install.

With a minimum of labor all connections for the Service Switch and Distribution Cutouts can be made in one completely enclosed and compact cabinet having also testing contacts and easy ganging facilities. Many Knockouts are available for Branch Circuit Conduits.

"Circle T" Universal Service Switches are examined, approved and labeled under direction of the Underwriters' Laboratories, Inc., for the National Board of Fire Underwriters and are published in their list of approved fittings.



Trumbull "Circle T" Universal Service Switches

For Single Phase and Direct Current Service

30 Amperes—For Plug Fuses Only
Including in One Unit Service Switch with Cutouts, also Cutouts for One, Two or Four Branch Circuits

Prices

Cat. No.	MAIN Pole	CONNECTIONS Switch Fused	No. of BRANCH Circuits		CONNECTIONS Fused	PRICE, EACH	
			1	2		Without End Wall	With End Wall
973-333 (Can be wired to get these 4 combinations)	2	Single Fuse	1	2	Two Fuses	\$6.60	\$7.00
	2	Two Fuses	1	2	" "	6.60	7.00
	3	" "	1	3	" "	6.60	7.00
	3	" "	2	2	*Single Fuse	6.60	7.00
971-123	2	Single Fuse	2	2	" "	6.60	7.00
972-123	2	" "	4	2	" "	8.60	9.00
979-333	3	{ Two Fuses Solid Neutral }	2	2	Two Fuses	8.60	9.00
975-333 (Can be wired to get these 3 combinations)	2	Single Fuse	2	2	" "	8.60	9.00
	2	Two Fuses	2	2	" "	8.60	9.00
	3	{ " " Solid Neutral }	4	2	*Single Fuse	8.60	9.00

Standard package, 10.

*May be used with no change in wiring for either two branch (single fuse) or one branch (double fuse). Dimensions and knockouts, same as 30-ampere switches.

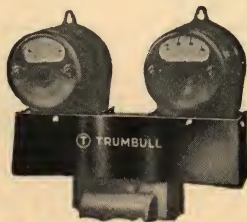
†NOTE.—Shutter end walls and blank shutters are regularly furnished as a unit with the switch and box. One-piece end walls are packed separately.

Meter Adapters and Back Plates

Single and Duplex Standardized



No. 906-516 Adapter
For GE C6 Meter, D.C.



No. 906-753 Duplex Adapter
For GE I-14 Meters

Meter adapters and back plates for all standard side connected meters can be furnished. Prices upon request.

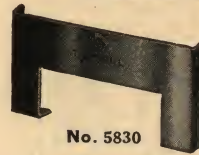
Duplex adapters and back plates for two meters used with a single switch can be furnished. Made to fit any standard meter.

These adapters, single and duplex, are fastened to an adapter coupling end wall that fits into the top of meter service for universal switch box.

In ordering these adapters specify type of meter with which they are to be used.

Price, No. 906-516 Adapter.....	each	\$4.05
" Duplex Adapter.....	"	1.75
" Back Plate.....	"	.50

Trumbull End Walls For Meter Service and Universal Service Switches Standardized, Solid and Shutter Types 30, 60 and 100 Amperes, 2 and 3-pole



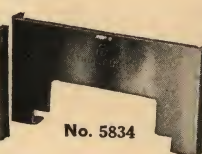
No. 5830



No. 5831



No. 5832



No. 5834



No. 5836

The Shutter End Walls with opening $5\frac{1}{4} \times 2\frac{1}{4}$ inches are regularly equipped with blank shutters, closing the opening. The meter protecting shutter adapts the end walls to any given meter.

The blank shutters can be thrown away when the meter is connected.

One Piece End Walls

Types of Meters	Amp.	CAPACITY			
		0-30 AMP.	Price	60-100 AMP.	Price
Cat. No.		Cat. No.	Each	Cat. No.	Each
*Sangamo H-2	5-15	5830	\$.40	.....	.....
** " H-2	25-100	.....	...	6870	\$1.10
GE I-14	5-25	5831	.40	.....	.....
Ft. W. K-5	50-75	.....	...	6871	1.10
GE I-14	5-20	5832	.40	.....	.....
Ft. W. K-5	15-75	.....	...	6872	1.10
West. O. A. (60 Cycles)	.....	5833	.40	6873	1.10
West. O. A. (60 Cycles)	.....	5834	.40	6874	1.10
West. O. A. without Meter Terminal Chamber Cover	5	5835	.40	6875	1.10
GE I-10	.....	5836	.40	6876	1.10
†Adapter Coupling	.....	.....	...	.....	.....
End Wall	.....	.....	...	.....	.....
Blank End Plate	.....	.....	...	.....	.....
West. O. A. (30 Cycles)	15-75	5837	.40	6877	1.10
" O. A. (30 Cycles)	5-10	.....	...	.....	.....
Duncan M-2	5-25	5838	.40	.....	.....
" M-2	50-75	.....	...	6878	1.10

Shutter End Walls and Meter Protecting Shutters

Types of Meters	Amp.	CAPACITY			
		0-30 AMP.	Price	60-100 AMP.	Price
Cat. No.		Cat. No.	Each	Cat. No.	Each
*Sangamo H-2	5-15	908-233	\$.20	.....	.....
** " H-2	25-100	.....	...	908-081	\$.30
GE I-14	5-25	908-273	.20	.....	.....
GE I-14	50-75	.....	...	908-011	.30
Ft. W. K-5	5-20	908-243	.20	.....	.....
West. O. A. (60 Cycles)	15-75	.....	...	908-241	.30
West. O. A. (60 Cycles)	5	908-183	.20	.....	.....
GE I-10	.....	908-093	.20	908-091	.30
†Adapter Coupling	.....	.....	...	.....	.....
End Wall	.....	.....	...	.....	.....
West. O. A. (30 Cycles)	15-75	908-023	.20	908-021	.30
" O. A. (30 Cycles)	5-10	.....	...	.....	.....
Duncan M-2	5-25	908-253	.20	.....	.....
" M-2	50-75	.....	...	908-261	.30
Shutter End Wall	.....	909-443	.20	909-441	.30
and Blank Shutter	.....	908-113	.20	908-111	.30
Blank Shutter	.....	.....	...	.....	.....

*Small chamber $4\frac{5}{8}$ inches.

**Large chamber $5\frac{3}{16}$ inches.

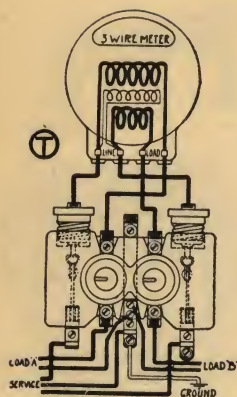
†These are end walls to which side connection meter trims are fastened.

Standard package, 10.

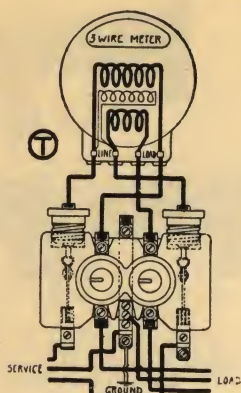


Trumbull "Circle T" Universal Service Switches

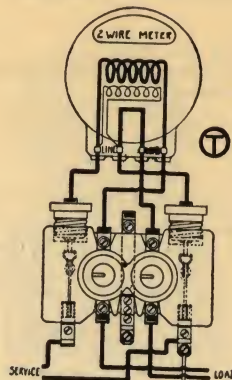
Wiring Diagrams



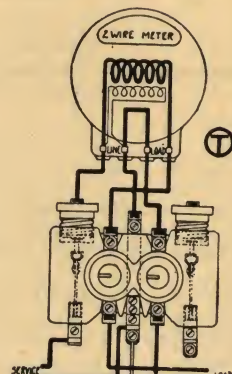
No. 973-333
3-wire Solid Neutral Switch
Two 2-wire Single Fused
Branch Circuits



No. 973-333
3-wire Solid Neutral Switch
One 3-wire 2-fused Branch
Circuit

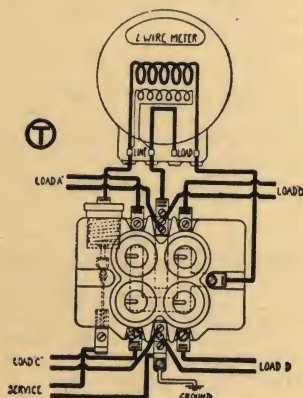


No. 973-333
2-wire Fused Switch
One 2-wire Fused
Branch Circuit

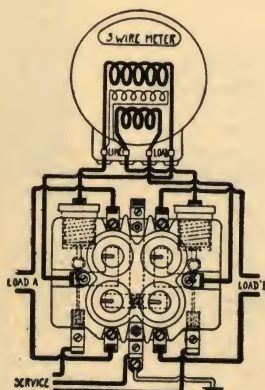


No. 973-333
2-wire Single Fused Switch
One 2-wire Fused
Branch Circuit

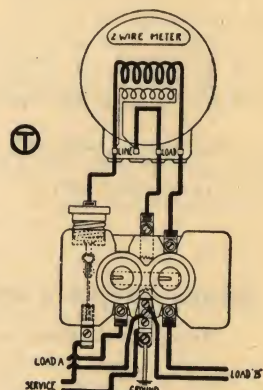
This wiring diagram is placed in all 973-333 boxes. Wires can be run to make any of these four combinations.



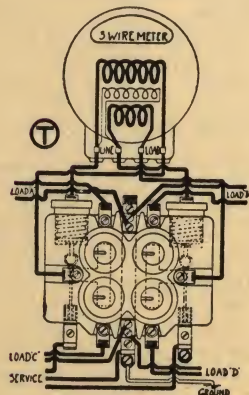
No. 972-123
2-wire Single Fused Switch
Four 2-wire Single Fused
Branch Circuits



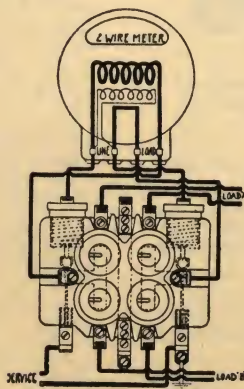
No. 979-333
3-wire Solid Neutral Switch
Two 2-wire Fused Branch
Circuits



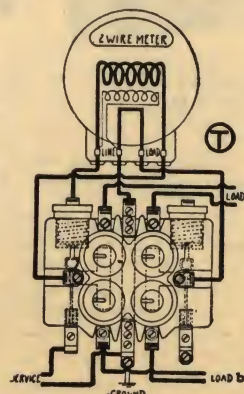
No. 971-123
2-wire Single Fused Switch
Two 2-wire Single Fused
Branch Circuits



No. 975-333
3-wire Solid Neutral Switch
Four 2-wire Single Fused
Branch Circuits



No. 975-333
2-wire Fused Switch
Two 2-wire Fused
Branch Circuits



No. 975-333
2-wire Single Fused Switch
Two 2-wire Fused
Branch Circuits

This wiring diagram is placed in all 975-333 boxes. Wires can be run to make any of these three combinations.



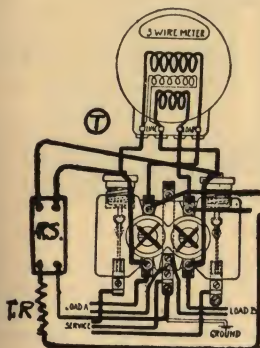
Trumbull "Circle T" Universal Service Switches

Showing One Way of Testing Meters in Circuit with Universal Service Switches

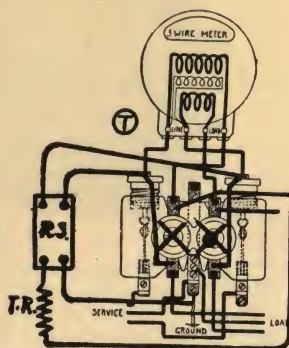
R.S.—Rotary Standard

T.R.—Testing Rheostat (110-volt)

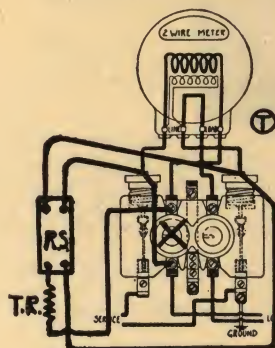
X.—Plugs Backed Out for Testing



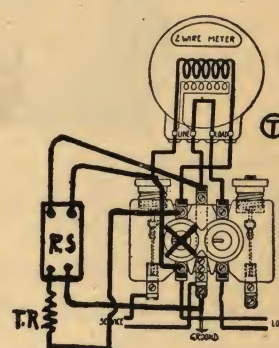
No. 973-333
3-wire Solid Neutral Switch
Two 2-wire Single Fused
Branch Circuits



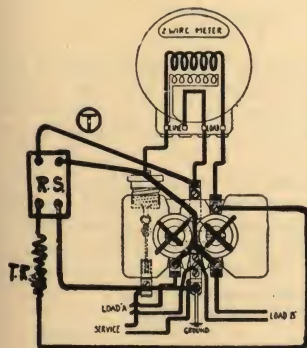
No. 973-333
3-wire Solid Neutral Switch
One 3-wire 2-fused
Branch Circuit



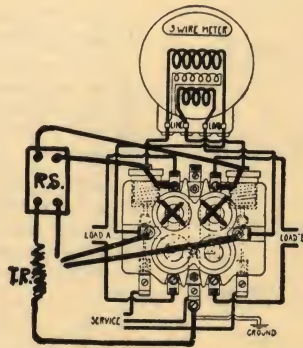
No. 973-333
2-wire Fused Switch
One 2-wire Fused
Branch Circuit



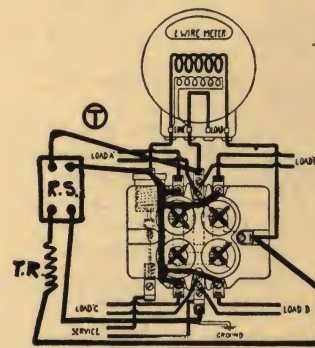
No. 973-333
2-wire Single Fused
Switch, One 2-wire
Fused Branch Circuit



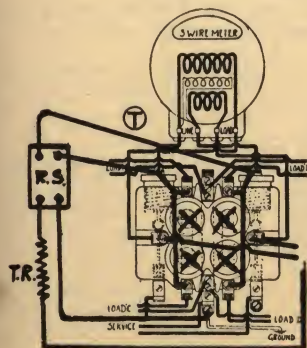
No. 971-123
2-wire Single Fused Switch
Two 2-wire Single Fused
Branch Circuits



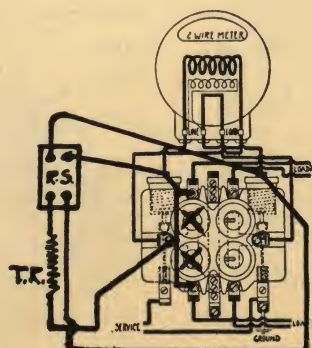
No. 979-333
3-wire Solid Neutral Switch
Two 2-wire Fused
Branch Circuits



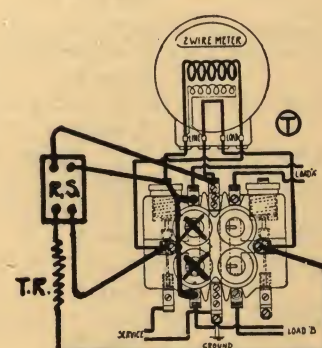
No. 972-123
2-wire Single Fused Switch
Four 2-wire Single Fused
Branch Circuits



No. 975-333
3-wire Solid Neutral Switch
Four 2-wire Single Fused
Branch Circuits



No. 975-333
2-wire Fused Switch
Two 2-wire Fused
Branch Circuits



No. 975-333
2-wire Single Fused Switch
Two 2-wire Fused
Branch Circuits



Reliance Automatic Time Switches

250 Volts or Less, A.C. or D.C.



Reliance Automatic Time Switches are constructed of the best materials and are tested before leaving the factory. Every machine is fully warranted for one year from date of purchase, and if any defective parts are found they will be replaced free of charge.

Reliance Time Switches are listed and approved by the Underwriters.

All types turn electric circuits both on and off. Runs a full week on one winding.

All types are 10x10x5½ inches in size and weigh 15 pounds. The case is cast iron (except type 11) with brilliant black enamel finish. Weight, boxed for shipment, 22 pounds.

Some of the uses for Reliance Time Switches are: To control electric signs, show window lighting, isolated street lights, burglar alarms.

The outdoor types are convenient for lighting companies who desire to furnish flat rate service, and who wish to install apparatus upon their own poles.

Type 10

Price, 10 Amperes or Less, Double or Single-pole, A.C. or D.C., Open or Closed Face.....each **\$32.00**

Type 11

Has pressed metal case.

Price, 10 Amperes or Less, Double or Single-pole, A.C. or D.C., Closed Face Only.....each **\$28.00**

Type 20

Price, 20 Amperes or Less, Double or Single-pole, A.C. or D.C., Open or Closed Face.....each **\$34.00**

Type 30

Price, 30 Amperes or Less, Double or Single-pole, A.C. or D.C., Open or Closed Face.....each **\$36.00**

Type 50

Price, 50 Amperes or Less, Double or Single-pole, A.C. or D.C., Open or Closed Face.....each **\$40.00**

Type 15

Price, 15 Amperes or Less, Triple-pole, A.C. or D.C., Open or Closed Face.....each **\$36.00**

The above types are for store windows and signs. Closed face type has solid iron door and no glass for outdoor use.

Type A

No. of Circuits	Operation	Price Each
2	No. 1 On; No. 2 On; Both Off Together.....	\$34.00

Type B

2	Both On Together; No. 1 Off; No. 2 Off.....	\$34.00
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Type C

2	No. 1 On; No. 2 On; No. 1 Off; No. 2 Off.....	\$34.00
---	---	----------------

Type D

3	No. 1 On; No. 2 On; No. 3 On; All Off Together..	\$34.00
---	--	----------------

Type E

2	No. 1 On; No. 1 Off and No. 2 On; No. 2 Off...	\$34.00
---	--	----------------

Type F

2	No. 1 On; No. 1 Off; No. 2 On; No. 2 Off.....	\$34.00
---	---	----------------

Type G

2	No. 1 On; No. 2 On; No. 2 Off; No. 1 Off.....	\$34.00
---	---	----------------

Types A, B, C, D, E, F and G are for apartment house hall lights. They are single-pole, A.C. or D.C., for 250 volts or less—10 amperes or less on each circuit.

Tork Clocks

For Turning Electric Lights On and Off Regularly



No. 1230

The arms which operate the switch levers are directly connected to the main spring arbor instead of driving through the train or escape mechanism. This eliminates all unnecessary friction and reduces the size of the train to that needed for timekeeping purposes only.

Designed to be wound once a week, but built to operate ten days on one winding, so that accidental neglect of the regular winding over a week end will not interrupt service.

The timekeeping movement is completely enclosed in a dust-proof case. By removing three screws the clock movement in its dust-proof case may be removed for cleaning.

Has non-magnetic hair spring which is not affected by any magnetic fields.

May be set on time without disturbing the times fixed for on and off operation, by simply loosening the outer thumb screw. Switch operation may be omitted for any desired period by simply leaving this outer thumb screw in loosened position.

Every switch blade is double ended, connecting with two knife terminals so that the make and break occurs at two points for each pole. The switch blade is insulated from all other parts of the switch movement. No current passes through hinges or other rotating parts.

10-day—On-and-off Daily Weatherproof Housing

Cat. No.	RATING Amps. Volts Poles			Knockouts	Std. Pkg.	Shp. Wt. Lbs.	Price Each
1230	30	250	2	2—¾ in.	10	165	\$25.00
Dustproof Housing							
1130	30	250	2	2—¾ and ½ in.	10	85	\$24.00
1115	15	250	2	2—½ in.	10	75	20.00
1106	6	125	1	2—½ "	10	75	15.00

No. 1166 for Operating High Duty Magnetic Switches

Single-pole, Double-throw, No Intermediate Position
Dustproof Housing

1166	6	250	1	2—½ in.			\$20.00
------	---	-----	---	---------	--	--	----------------

Price, No. T.D. On-and-off Twice a Day Attachment Dial with Four Arms for any Tork Clockeach **\$2.00**
Price, No. 10 Standard Sized Time Motor " **8.00**

Tork Clock Service

By removing one screw and disconnecting the wires from the terminals, the entire switch movement may be easily demounted for repairs or may be replaced by another standard Tork Clock switch movement immediately if such service is required.

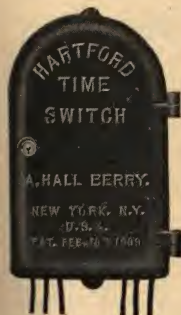
Switch terminals are mounted in an ample space provided with openings or knockouts for conduits of suitable size, and the terminals are staggered and faced front to permit easy connections. No additional junction box is required.

Tork Clocks are designed to make it entirely practical for every user to obtain immediate and satisfactory service under all conditions for use and replacement.



Hartford Automatic Time Switches

250 Volts



Designed to turn electric current on or off, automatically, at any predetermined time. The mechanism is enclosed in a dustproof and weatherproof japanned cast iron case, locking with sub-treasury lock.

Type B

Type B throws the switch on and off daily seven days per week at the hours for which it is set. It is provided with a cut-out by which the clock can be disconnected, allowing the clock to operate without throwing the switch. It also has a hand trip by which the

switch can be operated without disturbing the clock.

Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each
10	1	\$36.00	35	1	\$42.00	100	1	\$90.00
10	2	36.00	35	2	42.00	100	2	90.00
10	3	38.00	35	3	45.00	100	3	95.00
20	1	39.00	50	1	50.00	200	1	105.00
20	2	39.00	50	2	50.00	200	2	105.00
20	3	41.00	50	3	80.00	200	3	110.00

Type C

Type C has a device by which the clock and switch are automatically disconnected one day in each week. While designed to omit the switch operation on Sunday, it can be set to disconnect on any day desired. It is also provided with hand trip for operating the switch.

Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each
10	1	\$39.00	20	2	\$42.00	35	3	\$49.00
10	2	39.00	20	3	45.00	50	1	52.00
10	3	41.00	35	1	47.00	50	2	52.00
20	1	42.00	35	2	47.00	..	..	.....

Type D

Type D is similar to Type B, but is arranged to throw the switch on and off for two periods each day.

Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each
10	1	\$39.00	20	2	\$42.00	35	3	\$49.00
10	2	39.00	20	3	45.00	50	1	52.00
10	3	41.00	35	1	47.00	50	2	52.00
20	1	42.00	35	2	49.00	..	..	.....

Type E

Type E is designed for use in connection with two-rate meter service, automatically cutting from one meter to another at time desired.

Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each
10	1	\$38.00	35	1	\$45.00
20	1	41.00	..	..	.....

Type G

Type G is designed to control apartment house hall lighting. It is so arranged that it will throw on the full number of lights in early evening and later throws these off, at the same time throwing on a series of a few night lights, throwing the second series off at dawn.

Cap. Amps.	No. of Poles	Price Each	Cap. Amps.	No. of Poles	Price Each
10	2	\$38.00	35	2	\$60.00

Hartford Cackle Time Switches



Designed for use in poultry houses to turn the lights on, automatically, at a predetermined time. The clock is a standard one-day movement. It is encased in a heavy, drawn steel, dust-proof case. Requires daily winding.

The base on which the movement is mounted is of heavy steel, and this, with all supporting parts is japanned to prevent rusting. The switch proper has over-size electrical contacts, and is of the quick make and break type, capacity, 10 amperes, single pole. The entire time switch is compact, has a neat and pleasing appearance, plain figures, is an easily read, accurate time piece.

Price, Cackle Time Switches.....each \$12.00

Type F-1 Remote Control Switches



D. C. or A. C.
For Potentials Not Exceeding 250 Volts D. C., or 440 Volts A. C.

The Remote Control Switch is located where the circuit is to be opened and closed. The push button may be located wherever convenient, at any distance from the switch or, if desired, several push buttons may be used to

operate the same switch from different locations.

The Remote Control Switch is useful also for controlling small motors or groups of sign lamps.

Single-throw

Double-pole			Triple-pole			Four-pole		
Cat. No.	Cap. Amps.	Price Each	Cat. No.	Cap. Amps.	Price Each	Cat. No.	Cap. Amps.	Price Each
730	30	\$36.00	790	30	\$43.20	610	30	\$54.00
740	60	48.00	800	60	54.00	620	60	68.00
750	75	60.00	810	75	67.20	630	75	112.00
760	100	93.60	820	100	108.00	640	100	128.00
770	150	108.00	830	150	124.80	...	...	.....
780	200	122.40	840	200	139.20	...	...	.....

Relays

Two remote control switches may be mounted in connection with a relay to act as a double throw switch.

Price, Relays.....each \$30.00

Type A Remote Control Switches

125-250 Volts
Continuous Current -
No Voltage Release

Designed for intermittent service such as the remote control of small motors, vacuum cleaners, etc. Used also as a safety switch for automatic elevators; single pole switches in series, operated by the elevator door. The remote control switch cannot close the circuit until all of the door operated switches are closed. When ordering state whether switch is for A. C. or D. C.



Double-pole			Triple-pole		
Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
4352	30	\$48.00	4353	30	\$60.00
5352	60	54.00	5353	60	68.00

No. 090 Momentary Contact Switches



This switch is arranged so that when the button is pressed a snap contact is made and a snap break is obtained when button is released. It fits a standard wall case, uses a standard gang plate, and can be furnished either push button or key.

Without Plate

Price, No. 090.....each \$2.40

No. 72 Tank Switches

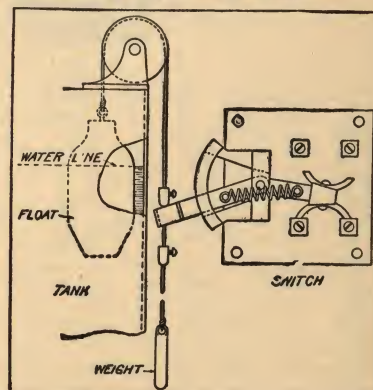
Has earthenware float not affected by acids or alkalies. Switch is double-throw, 10 amperes at either 220 or 110 volts, and may be used as a high or low water alarm.

With Float

Price, No. 72
.....each \$25.00

Without Float

Price, No. 720
.....each \$15.00

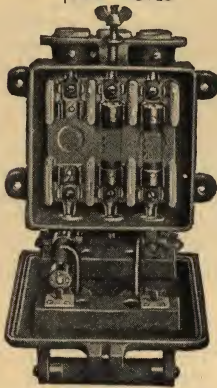


**D & W Service Switches**

For N. E. C. S. Fuses

Schedule FC—Class 3

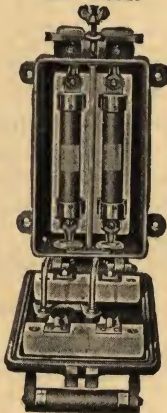
†250 Volts

**No. 1905**

Cat. No.	TYPE		Amp.	No. of Poles	Std. Wt., Lbs.		Price Each
	Direct Current	Alternating Current			Pkg.	Std. Pkg.	
1910	...	I-6-A	0-30	*Double	10	94	\$7.25
1900	...	I-7-A	31-60	"	5	98	8.25
1901	...	I-8-A	61-100	"	5	125	12.50
1902	...	I-9-A	101-200	"	5	160	20.50
1903	...	I-10-A	201-400	"	5	260	42.00
1904	...	I-11-A	401-600	"	3	230	70.00
1911	I-0	I-0-A	0-30	Triple	10	115	9.00
1905	I	I-A	31-60	"	5	128	10.00
1906	I-2	I-2-A	61-100	"	5	139	15.00
1907	I-3	I-3-A	101-200	"	3	164	26.00
1908	I-4	I-4-A	201-400	"	1	138	56.00
1909	I-5	I-5-A	401-600	"	1	200	96.00

*Two-pole switches, Types I-6-A to I-11-A inclusive, are equipped with two hooks operated simultaneously by one lever, in conformance with ruling of Underwriters' Laboratories that it be impossible to open the circuit by pulling one fuse only. In ordering specify Cat. No. and Type.

†For direct-current 3-wire circuits, these switches are equipped with two hooks operated by single lever; multi-phase circuits with three hooks operated simultaneously by one lever. Direct-current 3-pole switches equipped with solid neutrals.

600 Volts**No. 1811**

Cat. No.	Type	Amp.	No. of Poles	Std. Wt., Lbs.		Price Each
				Pkg.	Std. Pkg.	
1811	O	0-30	Double	5	80	\$10.00
1812	O-2	31-60	"	5	125	14.00
1813	O-3	61-100	"	4	160	17.50
1814	O-4	101-200	"	4	200	35.00
1815	O-5	201-400	"	3	200	80.00
1816	O-6	401-600	"	1	125	133.00
1817	O-7	0-30	Triple	5	125	13.00
1818	O-8	31-60	"	5	140	16.50
1819	O-9	61-100	"	4	175	23.00
1820	O-10	101-200	"	4	224	42.00
1821	O-11	201-400	"	1	173	102.00
1822	O-12	401-600	"	1	200	175.00

600-volt boxes supplied with all hooks operated by one lever.

D & W Outlet Hoods

For D & W Service Switches

250-600 Volts

Schedule FC—Class 3

Straightway Type



Cat. No.	For Type	Furnished for Conduit, Size Inches		Std. Pkg.	Price Each
		Inches			
1940	I-6-A Boxes	1	20		\$9.90
1930	I-7-A "	1½	10		1.10
1931	I-8-A and O-2 Boxes	1½	10		1.60
1932	I-9-A	2	10		2.30
1933	I-10-A Boxes	3	10		3.50
1934	I-11-A "	3½	6		7.00
1941	I-0 and I-0-A Boxes	1	20		1.00
1935	I and I-A Boxes	1½	10		1.20
1936	I-2 and I-2-A and O-8 Boxes	1½	10		1.65
1937	I-3 and I-3-A Boxes	2½	6		2.50
1939	I-4 " I-4-A "	3	2		9.50
1851	O Boxes	1	10		1.05
1853	O-3 Boxes	1½	8		1.65
1854	O-4 "	2	8		2.65
1855	O-5 "	3	6		4.40
1856	O-6 "	3½	2		9.70
1857	O-7 "	1	10		1.10
1859	O-9 "	1½	8		1.80
1860	O-10 "	3	8		3.00
1861	O-11, I-5 and I-5-A Boxes	4	2		10.00
1862	O-12 Boxes	4½	2		11.50

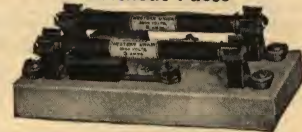
Outlet hoods can be furnished in the straightway type and for the various standard conduit sizes listed only. Straightway hoods can be adopted readily to side or back connection by use of a conduit elbow. If hoods are required for use with conduit other than the above standard sizes, the use of pipe reduction bushings is suggested as a ready means to adopt hoods to larger or smaller pipe.

D & W Telegraph Protectors

Schedule FC—Class 3

Western Union Type Cut-outs

Without Fuses

**No. 2753**

Cat. No.	Style	Std. Pkg.	Wt., Lbs.		Price Each
			Std. Pkg.		
2750	S. P.	50	40		\$0.30
2751	D. P.	50	60		.50
Cat. No.	Style	Std. Pkg.	Wt., Lbs.		Price Each
			Std. Pkg.		
2752	S. P.	50	40		\$0.60
2753	D. P.	50	60		1.00

Without Lightning Arrestor

With Lightning Arrestor

Telegraph Fuses

Cat. No.	Cap. Amp.	For Cut-outs	Length Inches	Centers Inches	Std. Wt., Lbs.		Price Each
					Pkg.	Std. Pkg.	
2760	0-5	Western Union	4½	...	100	4	\$0.20

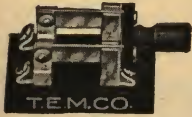
In ordering D & W telegraph fuses, specify catalogue number and ampere capacities.

Fuses can be furnished in any of the following ampere capacities: .5-8-1-2-3 and 5.



Trumbull Telephone or Battery Switches

25 Amperes—Slate Base—Front Connections



No. 14

All the telephone or battery switches are fitted with the return bend, self-adjusting type of clip, which is unusually suitable for this type of switch. Projections on posts prevent turning on bases.

Cat. No.	Style	SIZE OF BASE, INCHES Length Width	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
14	D.P., S.T.	2 1/2 x 2	50	30	\$.45
15	D.P., D.T.	3 5/8 x 2	25	22	.75
16	3P., S.T.	2 1/2 x 3 1/4	50	40	.66
17	3P., D.T.	3 5/8 x 3 1/4	25	30	1.10
18	4P., S.T.	2 1/2 x 4 1/2	25	30	1.00
19	4P., D.T.	3 5/8 x 4 1/2	10	20	1.70

Trumbull Telephone or Battery Switches

25 Amperes—Fiber Base—Front Connections



No. 7



No. 11

Fitted with return bend self-adjusting clip. Projections on posts prevent turning on bases.

With Composition Handle

Cat. No.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
7	S.P., S.T.	20	200	36	\$.22
8	S.P., D.T.	10	100	30	.34
9	D.P., S.T.	10	100	41	.42
10	D.P., D.T.	10	50	36	.80
40	3P., S.T.	10	50	35	.75
41	3P., D.T.	10	25	20	1.25
42	4P., S.T.	10	25	20	1.10
43	4P., D.T.	10	10	10	1.75

With Black Enameled Handle

11	S.P., S.T.	20	200	34	\$.20
13	S.P., D.T.	10	100	29	.32

Trumbull Telephone or Battery Switches

25 Amperes—Porcelain Base—Front Connections



No. 707



No. 709



No. 710

Fitted with return bend, self-adjusting clip. Projections on posts prevent turning on bases.

Cat. No.	Style	SIZE OF BASE, INCHES Length Width	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
707	S.P., S.T.	2 7/8 x 1 1/4	10	150	48	\$.20
708	S.P., D.T.	3 5/8 x 1 5/8	5	100	45	.32
709	D.P., S.T.	2 1/8 x 2	10	100	50	.35
710	D.P., D.T.	3 5/8 x 2	5	50	46	.50
711	3P., S.T.	2 1/8 x 3 1/4	5	50	45	.56
712	3P., D.T.	3 5/8 x 3 1/4	5	50	67	.90

Trumbull Gas Engine

Switches

25 Amperes

For changing from one set of batteries to another.

Cat. No.	Style	Size of Base In.	Car. ton	Std. Pkg.	Wt. Lbs.	Price Each
980	S. P.	2x4	5	50	42	\$.70
984	D. P.	4x4	5	25	35	1.40



No. 980

Trumbull Kappa Switches



Front Connections
Plain Finish

250 Volts, 30 Amperes
Switches, without slate base, deduct 10 per cent.
No fuse included in prices.

No Fuse—Low Jaws

Price, No. 20, Single Pole.....	each	\$.38
" " 22, Double "	"	.60
" " 23, Three "	"	.90

For N. E. C. Enclosed Fuses at Bottom—High Jaws

Price, No. 29, Single Pole.....	each	\$.64
" " 30, Double "	"	.97
" " 31, Three "	"	1.45

For N. E. C. Enclosed Fuses at Top—High Jaws

Price, No. 32, Single Pole.....	each	\$.64
" " 33, Double "	"	.97
" " 34, Three "	"	1.45

Type C Trumbull Switches

Front Connections—Plain Finish

250 Volts D. C. and 500 Volts A. C.

No Fuse



Unmounted switches, without slate bases, deduct 10 per cent. 125-volt switches same price as 250-volt.

Single Throw—No Fuse

Caps. Amp.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
*30	3001	\$.42	3041	\$.68	3081	\$ 1.02	5901	\$ 1.36
30	3002	.66	3042	1.06	3082	1.60	5902	2.14
60	3003	.74	3043	1.22	3083	1.84	5903	2.44
100	3005	1.50	3045	2.50	3085	3.76	5905	5.00
200	3006	2.70	3046	4.50	3086	6.76	5906	9.00

Double Throw—No Fuse

*30	3021	\$.76	3061	\$ 1.16	3101	\$ 1.80	5921	\$ 2.56
30	3022	1.16	3062	1.70	3102	2.66	5922	3.84
60	3023	1.30	3063	2.00	3103	3.10	5923	4.40
100	3025	2.94	3065	4.50	3105	6.90	5925	9.80
200	3026	4.88	3066	7.50	3106	11.60	5926	15.50

Type C Trumbull Switches

Front Connections—Plain Finish

250 Volts D. C. and 500 Volts A. C.

Fusible N.E.C. Standard



Unmounted switches, without slate bases, deduct 10 per cent. 125-volt switches same price as 250-volt.

All 4-pole switches are regularly equipped with spade handles.

No fuses are included in prices.

Single Throw—Fusible at Bottom—High Jaws

Caps. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each
30	1120	\$.70	1130	\$ 1.06
60	1121	1.18	1131	1.80
100	1123	2.38	1133	3.66
200	1124	4.40	1134	6.76

Triple-pole

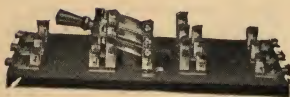
Caps. Amps.	Triple-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	1140	\$ 1.60	1150	\$ 2.12
60	1141	2.70	1151	3.60
100	1143	5.50	1153	7.30
200	1144	10.14	1154	13.50



Type C Trumbull Switches Front Connections—Plain Finish

250 Volts D. C. and A. C.

For N. E. C. Enclosed Fuses



Unmounted switches,
without slate bases, ded-
uct 10 per cent.

All 4-pole switches
regularly equipped with
spade handles.

No fuses included in prices.

Double-throw

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Triple-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	3131	\$1.54	3151	\$2.20	3171	\$3.52	3191	\$4.84
60	3132	2.38	3152	3.40	3172	5.44	3192	7.48
100	3134	5.18	3154	7.40	3174	11.84	3194	16.28
200	3135	9.80	3155	13.00	3175	20.80	3195	26.60

Type C Trumbull Switches Front Connections—Plain Finish

500 Volts A. C.

Unmounted switches, without slate bases, deduct 10 per cent. All fusible 500-volt A.C. switches arranged for 600-volt fuses. No fuses are included in prices.

Single Throw—For N. E. C. Enclosed Fuses at Bottom



Cap. Amps.	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	9880	\$2.80	9900	\$3.70
60	9881	3.50	9901	4.80
100	9883	7.00	9903	9.30
200	9884	12.20	9904	16.20

Double Throw—For N. E. C. Enclosed Fuses



Cap. Amps.	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	9850	\$6.00	9870	\$8.00
60	9851	7.40	9871	9.80
100	9853	14.00	9873	18.60
200	9854	21.50	9874	28.60

Type C Trumbull Switches Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

No Fuse



Unmounted switches without slate bases, deduct 10 per cent.

Single Throw—With Quick Break Attachments

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Triple-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	6600	\$1.08	6620	\$1.80	6640	\$2.80	6655	\$3.80
60	6601	1.20	6621	2.00	6641	3.10	6656	4.20
100	6603	2.16	6623	3.60	6643	5.60	6657	7.50
200	6604	4.20	6624	7.00	6644	10.86	6658	14.70

Single Throw—Without Quick Break Attachments

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Triple-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	3200	\$0.80	3240	\$1.34	3280	\$2.10	3305	\$2.80
60	3202	.96	3242	1.60	3282	2.50	3306	3.30
100	3204	1.90	3244	3.16	3284	4.90	3307	6.60

*Double Throw

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Triple-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	3220	\$1.66	3260	\$2.20	3300	\$3.70	3315	\$5.00
60	3222	1.90	3262	2.60	3302	4.30	3316	6.00
100	3224	3.90	3264	5.20	3304	8.60	3317	12.00

*Double-throw switches, Type C, are not made with quick break attachments.

Type C Trumbull Switches Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

For N. E. C. Enclosed Fuses at Bottom—High Jaws



Unmounted switches, without slate bases, deduct 10 per cent. All 3 and 4-pole switches, 600-volt, regularly equipped with spade handles. No fuses included in prices.

Single Throw—With Quick Break Attachments

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	6720	\$1.70	6730	\$2.60	6740	\$4.16	6745	\$5.70
60	6721	1.96	6731	3.00	6741	4.80	6746	6.60
100	6723	3.60	6733	5.50	6743	8.80	6747	12.00
200	6724	6.50	6734	10.00	6744	16.00	6748	22.00

Single Throw—Without Quick Break Attachments

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	3640	\$1.40	3650	\$2.20	3660	\$3.50	3665	\$4.84
60	3641	1.70	3651	2.60	3661	4.16	3666	5.70
100	3643	3.25	3653	5.00	3663	8.00	3667	11.00

Type C Trumbull Switches Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

For N. E. C. Enclosed Fuses



Unmounted switches, without slate bases, deduct 10 per cent. All 3 and 4-poleswitches, 600-volt, regularly equipped with spade handles. No fuses included in prices.

*Double Throw

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	3330	\$3.30	3350	\$4.40	3370	\$7.26	3385	\$10.00
60	3331	3.75	3351	5.00	3371	8.25	3386	11.50
100	3333	7.50	3353	10.00	3373	16.50	3387	23.00

*Double throw switches, Type C, are not made with quick break attachments.

Type A Trumbull Switches Front Connections—Plain Finish

250 Volts D. C. and 500 Volts A. C.

Unmounted switches,
without slate bases, deduct
10 percent. 125-volt switches
same price as 250-volt. Two
and three-pole switches, 800
amperes and above, and all
four-pole switches regularly
equipped with spade
handles.

Multiple blades regularly used on switches 800 amperes and above.



Single Throw—No Fuse

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	3721	\$0.80	3801	\$1.20	3881	\$1.80	3961	\$2.40
30	3721½	1.14	3801½	1.64	3881½	2.48	3961½	3.30
60	3722	1.20	3802	1.78	3882	2.68	3962	3.56
100	3724	2.25	3804	3.38	3884	5.08	3964	6.76
200	3726	3.48	3806	5.20	3886	7.80	3966	10.40
300	3728	5.34	3808	8.00	3888	12.00	3968	17.00
400	3729	8.14	3809	12.20	3889	18.30	3969	25.94
600	3731	11.54	3811	17.30	3891	25.96	3971	36.78
800	3732	20.00	3812	30.00	3892	45.00	3972	60.00
1000	3733	22.68	3813	34.00	3893	51.00	3973	68.00
1200	3734	27.34	3814	41.00	3894	61.50	3974	82.00
1500	3735	41.00	3815	61.50	3895	92.25	3975	123.00
2000	3736	57.50	3816	86.50	3896	129.50	3976	173.00



Type A Trumbull Switches

Front Connections

Plain Finish

250 Volts D. C. and A. C.

Unmounted switches, without slate bases, deduct 10 per cent.



Single Throw—For N.E.C. Enclosed Fuses at Bottom High Jaws

Single-pole	Double-pole	Three-pole	Four-pole
Cat. No.	Cat. No.	Cat. No.	Cat. No.
Price Each	Price Each	Price Each	Price Each
4361 \$1.18	4381 \$1.76	4401 \$2.64	4421 \$3.52
4362 1.74	4382 2.60	4402 3.90	4422 5.20
4364 3.34	4384 5.00	4404 7.50	4424 10.00
4366 5.14	4386 7.70	4406 11.56	4426 15.40
4368 11.64	4388 17.46	4408 26.20	4428 37.10
4370 16.34	4390 24.50	4410 36.75	4430 52.06
4371 26.34	4391 39.50	4411 59.25	4431 79.00
4372 33.00	4392 49.50	4412 74.00	4432 98.50
4373 35.68	4393 53.50	4413 80.25	4433 107.00

Type A Trumbull Switches

Front Connections—Plain Finish

250 Volts D. C. and 500 Volts A. C.



Unmounted switches, without slate bases, deduct 10 per cent. 125-volt switches same price as 250-volt. Two and three-pole switches 800 amperes and above, and all four-pole switches regularly equipped with spade handles.

Multiple blades regularly used on switches 800 amperes and above.

Double Throw—No Fuse

Single-pole	Double-pole	Three-pole	Four-pole
Cat. No.	Cat. No.	Cat. No.	Cat. No.
Price Each	Price Each	Price Each	Price Each
30 3741 \$1.18	3821 \$1.76	3901 \$2.64	3981 \$3.52
30 3741 1/2 1.58	3821 1/2 2.26	3901 1/2 3.40	3981 1/2 4.60
60 3742 1.74	3822 2.60	3902 3.90	3982 5.20
100 3744 3.34	3824 5.00	3904 7.50	3984 10.00
200 3746 5.34	3826 8.00	3906 12.00	3986 16.00
300 3748 8.68	3828 13.00	3908 19.50	3988 26.00
400 3749 12.54	3829 18.80	3909 28.20	3989 37.60
600 3751 17.34	3831 26.00	3911 39.00	3991 52.00
800 3752 30.50	3832 46.00	3912 69.00	3992 92.00
1000 3753 35.50	3833 53.50	3913 82.50	3993 107.00
1200 3754 41.50	3834 62.50	3914 93.50	3994 124.50
1500 3755 62.68	3835 94.00	3915 141.00	3995 188.00
2000 3756 95.00	3836 142.00	3916 213.00	3996 284.00

Type A Trumbull Switches

Front Connections—Plain Finish

250 Volts D. C. and A. C.

Unmounted switches, without slate bases, deduct 10 per cent.



Double Throw—For N.E. C. Enclosed Fuses

Single-pole	Double-pole
Cat. No.	Cat. No.
Price Each	Price Each
30 4061 \$2.28	4141 \$3.40
60 4062 3.08	4142 4.60
100 4064 6.20	4144 9.30
200 4066 9.34	4146 14.00
400 4068 18.68	4148 28.00
600 4070 27.68	4150 41.50
800 4071 47.00	4151 70.00
1000 4072 59.50	4152 89.00
1200 4073 64.00	4153 96.00
Three-pole	Four-pole
Cat. No.	Cat. No.
Price Each	Price Each
30 4221 \$5.10	4301 \$6.80
60 4222 6.90	4302 9.20
100 4224 13.96	4304 18.60
200 4226 21.00	4306 28.00
400 4228 42.00	4308 56.00
600 4230 62.25	4310 83.00
800 4231 105.00	4311 140.00
1000 4232 133.50	4312 178.00
1200 4233 144.00	4313 192.00

Type A Trumbull Switches

Front Connections

Plain Finish

500 Volts A. C.



Single Throw—For N.E.C. Enclosed Fuses at Bottom High Jaws

Three-pole	Four-pole
Cat. No.	Cat. No.
Price Each	Price Each
30 5321 \$4.00	5361 \$5.34
60 5322 4.60	5362 6.14
100 5324 8.20	5364 10.94
200 5326 13.10	5366 17.48
400 5328 28.50	5368 38.00
600 5330 40.00	5370 53.34
800 5331 67.50	5371 90.00
1000 5332 86.50	5372 115.50
1200 5333 93.00	5373 124.00

Type A Trumbull Switches

Front Connections—Plain Finish

500 Volts A. C.

Unmounted switches, without slate bases, deduct 10 per cent.



Double Throw—For N. E. C. Enclosed Fuses

Three-pole	Four-pole
Cat. No.	Cat. No.
Price Each	Price Each
30 5181 \$7.50	5261 \$10.00
60 5182 9.00	5262 12.00
100 5184 16.00	5264 21.32
200 5186 23.50	5266 31.32
400 5188 48.00	5268 60.00
600 5190 72.00	5270 96.00
800 5191 131.00	5271 174.50
1000 5192 157.00	5272 209.50
1200 5193 162.00	5273 216.00

Type A Trumbull Switches

Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

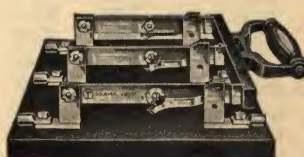
No Fuse



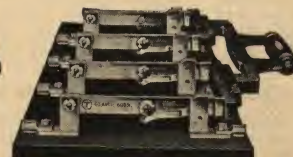
Single-pole



Double-pole



Three-pole



Four-pole

Unmounted switches without slate bases, deduct 10 per cent. All 3 and 4-pole switches, 600-volt, regularly equipped with spade handles.

Single Throw—With Quick Break Attachments

Single-pole	Double-pole	Three-pole	Four-pole
Cat. No.	Cat. No.	Cat. No.	Cat. No.
Price Each	Price Each	Price Each	Price Each
30 9000 \$1.50	9100 \$2.72	9200 \$4.38	9240 \$6.02
60 9001 1.60	9101 2.90	9201 4.64	9241 6.38
100 9003 2.76	9103 5.00	9203 8.00	9243 11.00
200 9005 4.40	9105 8.00	9205 12.80	9245 17.60
300 9006 6.82	9106 12.40	9206 19.84	9246 27.28
400 9007 9.36	9107 17.00	9207 27.20	9247 37.40
600 9009 12.38	9109 22.50	9209 36.00	9249 49.50

Single Throw—Without Quick Break Attachments

Single-pole	Double-pole	Three-pole	Four-pole
Cat. No.	Cat. No.	Cat. No.	Cat. No.
Price Each	Price Each	Price Each	Price Each
30 9010 \$1.18	9110 \$2.12	9210 \$3.40	9250 \$4.70
60 9011 1.28	9111 2.30	9211 3.68	9251 5.06
100 9013 2.35	9113 4.00	9213 6.40	9253 8.80



Type A Trumbull Switches

Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

For N. E. C. Enclosed Fuses at Bottom—High Jaws



Unmounted switches without slate bases, deduct 10 per cent. All 3 and 4-pole switches, 600-volt, regularly equipped with spade handles.

Single Throw—With Quick Break Attachments

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each		Cat. No.	Price Each	
30	9600	\$2.18	9620	\$3.92		9640	\$6.30		9660	\$8.66	
60	9601	2.34	9621	4.26		9641	6.82		9661	9.38	
100	9603	3.90	9623	7.10		9643	11.36		9663	15.62	
200	9605	6.16	9625	11.20		9645	17.92		9665	24.64	
400	9607	12.94	9627	23.50		9647	37.60		9667	51.70	
600	9609	17.34	9629	31.50		9649	50.40		9669	69.30	

Single Throw—Without Quick Break Attachments

30	9610	\$1.84	9630	\$3.32	9650	\$5.34	9670	\$7.34
60	9611	2.04	9631	3.70	9651	5.92	9671	8.14
100	9613	3.48	9633	6.30	9653	10.08	9673	13.86

Type A Trumbull Switches

Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

No Fuse



Unmounted switches without slate bases, deduct 10 per cent. All 3 and 4-pole switches, 600-volt, regularly equipped with spade handles.

Double Throw—With Quick Break Attachments

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each		Cat. No.	Price Each	
30	9020	\$2.64	9120	\$4.76		9220	\$7.64		9260	\$10.52	
60	9021	2.76	9121	5.00		9221	8.00		9261	11.00	
100	9023	4.08	9123	7.40		9223	11.84		9263	16.28	
200	9025	6.60	9125	12.00		9225	19.20		9265	26.40	
300	9026	9.90	9126	18.00		9226	28.80		9266	39.60	
400	9027	13.76	9127	25.00		9227	40.00		9267	55.00	
600	9029	18.00	9129	33.00		9229	53.00		9269	72.50	

Double Throw—Without Quick Break Attachments

30	9030	\$2.36	9130	\$4.26	9230	\$6.84	9270	\$9.42
60	9031	2.48	9131	4.50	9231	7.20	9271	9.90
100	9033	3.58	9133	6.50	9233	10.40	9273	14.30

Type A Trumbull Switches

Front Connections—Plain Finish

251-600 Volts D. C. and 501-600 Volts A. C.

For N. E. C. Enclosed Fuses



Unmounted switches without slate bases, deduct 10 per cent. All 3 and 4-pole switches, 600-volt, regularly equipped with spade handles.

No fuses included in prices.

Double Throw—With Quick Break Attachments

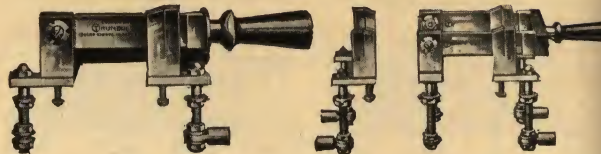
Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each		Cat. No.	Price Each	
30	9320	\$3.74	9420	\$6.74		9520	\$10.84		9560	\$14.92	
60	9321	4.08	9421	7.40		9521	11.84		9561	16.28	
100	9323	6.88	9423	12.50		9523	20.00		9563	27.50	
200	9325	10.46	9425	19.00		9525	30.40		9564	41.80	
400	9327	19.80	9427	36.00		9527	57.60		9567	79.20	
600	9329	29.70	9429	54.00		9529	86.40		9569	118.80	

Type A Trumbull Switches

Back Connections—Satin Finish

250 Volts D. C. or 500 Volts A. C.

No Fuse



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet. Above 600 amperes, templet regularly furnished. Screws are for 1-inch slate unless otherwise specified.

125-volt spacings same price as 250-volt.

Two and three-pole switches, 800 amperes and above, and all four-pole switches regularly equipped with spade handles.

Single Throw—No Fuse

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each		Cat. No.	Price Each	
30	3761	\$0.96	3841	\$1.74		3921	\$2.60		4001	\$3.48	
30	3761½	1.44	3841½	2.58		3921½	3.90		4001½	5.20	
60	3762	1.50	3842	2.70		3922	4.06		4002	5.40	
100	3764	2.54	3844	4.60		3924	6.90		4004	9.20	
200	3766	3.90	3846	7.10		3926	10.66		4006	14.20	
300	3768	5.94	3848	10.80		3928	16.20		4008	22.96	
400	3769	8.48	3849	15.40		3929	23.10		4009	32.72	
600	3771	12.20	3851	22.20		3931	33.30		4011	47.18	
800	3772	21.46	3852	39.00		3932	58.50		4012	78.00	
1000	3773	23.38	3853	42.50		3933	63.75		4013	85.00	
1200	3774	29.04	3854	52.80		3934	79.20		4014	105.60	
1500	3775	38.50	3855	70.00		3935	105.00		4015	140.00	
2000	3776	65.50	3856	119.00		3936	178.50		4016	238.00	
2500	3777	106.00	3857	190.00		3937	284.00				
3000	3778	128.00	3858	230.00		3938	350.00				
4000	3779	188.00	3859	325.00		3939	475.00				
5000	3779½	250.00	3859½	440.00		3939½	660.00				

Double Throw—No Fuse

30	3781	\$1.38	3861	\$2.50	3941	\$3.75	4021	\$5.00
30	3781½	1.92	3861½	3.46	3941½	5.20	4021½	7.00
60	3782	2.04	3862	3.70	3942	5.56	4022	7.40
100	3784	3.52	3864	6.40	3944	9.60	4024	12.80
200	3786	5.60	3866	10.20	3946	15.30	4026	20.40
300	3788	8.58	3868	15.60	3948	23.40	4028	31.20
400	3789	12.38	3869	22.50	3949	33.75	4029	45.00
600	3791	17.34	3871	31.50	3951	47.25	4031	63.00
800	3792	30.80	3872	56.00	3952	84.00	4032	112.00
1000	3793	34.10	3873	62.00	3953	93.00	4033	124.00
1200	3794	42.90	3874	78.00	3954	117.00	4034	156.00
1500	3795	57.20	3875	104.00	3955	156.00	4035	208.00
2000	3796	95.50	3876	173.00	3956	259.50	4036	345.00
2500	3797	158.00	3877	280.00	3957	424.00		
3000	3798	188.00	3878	342.00	3958	521.00		
4000	3799	264.00	3879	480.00	3959	706.00		
5000	3799½	368.00	3879½	658.00	3959½	980.00		

Type A Trumbull Switches

Back Connections—Satin Finish

250 Volts D. C. and A. C.



Packed unmounted 30 to 600 amperes, inclusive. 10 per cent additional for wood templet. Screws are for 1-inch slate, unless otherwise specified. 125-volt spacings same price as 250-volt.

Single Throw—For N. E. C. Fuses at Bottom—Low Jaws

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each		Cat. No.	Price Each	
30	4081	\$1.14	4161	\$2.06		4241	\$3.10		4321	\$4.12	
60	4082	1.82	4162	3.30		4242	4.96		4322	6.60	
100	4084	3.36	4164	6.10		4244	9.16		4324	12.20	
200	4086	5.06	4166	9.20		4246	13.80		4326	18.40	
400	4088	10.82	4168	19.68		4248	29.52		4328	41.82	
600	4090	15.54	4170	28.24		4250	42.36		4330	60.00	



Type A Trumbull Switches

Back Connections—Satin Finish

250 Volts D. C. and A. C.



Packed unmounted 30 to 600 amperes, inclusive. 10 per cent additional for wood templet. Above 600 amperes, templet regularly furnished.

Screws are for 1-inch slate unless otherwise specified. 125-volt spacings same price as 250-volt. No fuses included in prices.

Single Throw—For N. E. C. Enclosed Fuses at Bottom, High Jaws

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.
30	4441	\$1.24	4461	\$2.24	4481	\$3.36	4501	\$4.48			
60	4442	1.88	4462	3.42	4482	5.14	4502	6.84			
100	4444	3.52	4464	6.40	4484	9.60	4504	12.80			
200	4446	5.32	4466	9.66	4486	14.50	4506	19.32			
400	4448	11.28	4468	20.50	4488	30.75	4508	43.56			
600	4450	16.36	4470	29.74	4490	44.62	4510	63.20			
800	4451	27.06	4471	49.20	4491	73.80	4511	98.40			
1000	4452	33.00	4472	60.00	4492	90.00	4512	120.00			
1200	4453	36.86	4473	67.00	4493	100.50	4513	134.00			

Type A Trumbull Switches

Back Connections—Satin Finish

250 Volts D. C. and A. C.



Packed unmounted 30 to 600 amperes, inclusive. 10 per cent additional for wood templet. Above 600 amperes, templet regularly furnished.

Screws are for 1-inch slate unless otherwise specified. 125-volt spacings same price as 250-volt. No fuses included in prices.

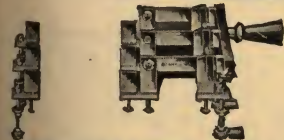
Double Throw—For N. E. C. Enclosed Fuses

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.
30	4101	\$2.64	4181	\$4.80	4261	\$7.20	4341	\$9.60			
60	4102	3.08	4182	5.60	4262	8.40	4342	11.20			
100	4104	5.50	4184	10.00	4264	15.00	4344	20.00			
200	4106	8.53	4186	15.60	4266	23.40	4346	31.20			
400	4108	18.44	4188	33.50	4268	50.25	4348	67.00			
600	4110	25.08	4190	45.60	4270	68.40	4350	91.20			
800	4111	42.90	4191	78.00	4271	117.00	4351	156.00			
1000	4112	53.50	4192	97.00	4272	145.50	4352	194.00			
1200	4113	57.20	4193	104.00	4273	156.00	4353	208.00			

Type A Trumbull Switches

Back Connections—Satin Finish

500 Volts A. C.



Packed unmounted 30 to 600 amperes, inclusive. 10 per cent additional for wood templet.

Screws are for 1-inch slate unless otherwise specified.

Arranged for 600-volt fuses. No fuses included in prices.

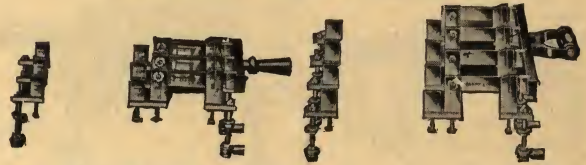
Single Throw—For N. E. C. Enclosed Fuses at Bottom Low Jaws

Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.
30	5201	\$5.20	5281	\$6.94	
60	5202	5.80	5282	7.74	
100	5204	9.80	5284	13.08	
200	5206	14.70	5286	19.60	
400	5208	31.50	5288	42.00	
600	5210	43.00	5290	57.34	

Type A Trumbull Switches

500 Volts A. C.

Back Connections—Satin Finish



Packed unmounted 30 to 600 amperes, inclusive. 10 per cent additional for wood templet. Screws are for 1-inch slate unless otherwise specified.

Arranged for 600-volt fuses. No fuses included in prices. Above 600 amperes, templet regularly furnished.

Single Throw—For N. E. C. Enclosed Fuses at Bottom High Jaws

Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.
30	5341	\$5.40	5381	\$7.20	
60	5342	6.20	5382	8.28	
100	5344	10.40	5384	13.88	
200	5346	15.50	5386	20.68	
400	5348	34.00	5388	45.34	
600	5350	46.00	5390	61.34	
800	5351	80.00	5391	107.00	
1000	5352	98.00	5392	131.00	
1200	5353	105.00	5393	140.00	

Type A Trumbull Switches

500 Volts A. C.

Back Connections—Satin Finish



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet. Above 600 amperes, templet regularly furnished.

Regularly furnished with high front posts and low hinge posts. Polished finish add 10 per cent. Plain finish deduct 10 per cent. 30–400 amp. incl.; above 400 amp. deduct 5 per cent. Screws are for 1-inch slate unless otherwise specified. Arranged for 600-volt fuses. Three-pole switches, 800 amp. and above and all four-pole switches are regularly equipped with spade handles. Multiple blades and multiple fuse clips regularly used in switches 800 amp. and above. All back connection switches, 800 amp. and above, regularly equipped with square posts. No fuses included in prices.

Double Throw—For N. E. C. Enclosed Fuses

Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cap. Amps.	Cat. No.	Price Each
30	5221	\$8.40	30	5301	\$11.20
60	5222	9.80	60	5302	13.08
100	5224	18.50	100	5304	24.68
200	5226	26.00	200	5306	34.68
400	5228	54.50	400	5308	72.68
600	5230	75.00	600	5310	100.00
800	5231	139.00	800	5311	186.00
1000	5232	168.00	1000	5312	224.00
1200	5233	186.00	1200	5313	248.00

Trumbull Field Discharge Switches

Back Connections—Satin Finish

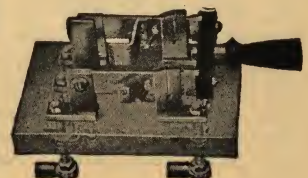
With Quick Break Attachments

For Potentials Not Exceeding 250 Volts

These switches are designed for use in generator field circuits. They shunt the discharge across the field winding, through a resistance, allowing the inductive discharge to die out gradually, without undue strain on insulation. Field resistance not furnished with switch. Switches are provided with extra clip, or jaw, which is connected to discharge resistance.

For plain finish, deduct 10 per cent. Mounted on wood templates.

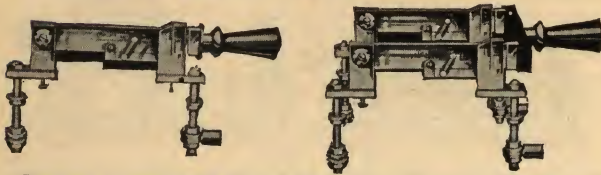
Cat. No.	Amps.	Net Wt., Lbs.	Price Each
8734	60	2 1/2	\$10.00
8738	100	5	12.50
8739	200	8	17.50
8740	300	12	23.50





Type A Trumbull Switches

Back Connections—Satin Finish
251-600 Volts D. C. and 501-600 Volts A. C.



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet.

The National Code requires that switches designed for over 250 volts, D. C. be provided with quick break attachments above 100 amp. and recommends them on 100 amp. and below. Polished finish add 10 per cent. Plain finish deduct 10 per cent. 30-400 amp. incl.; above 400 amp. deduct 5 per cent. Screws are for 1-inch slate unless otherwise specified. All three and four-pole switches, 600 volt, regularly equipped with spade handles. 600-volt switches above 600 amp., add 40 per cent to 250-volt lists for those with quick break attachments, 20 per cent for those without quick break attachments.

Single Throw—With Quick Break Attachments No Fuse

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	9040	\$2.10	9060	\$3.82	9080	\$6.12	9140	\$8.44
60	9041	2.20	9061	4.00	9081	6.40	9141	8.80
100	9042	3.58	9062	6.50	9082	10.40	9142	14.30
200	9043	5.28	9063	9.60	9083	15.36	9143	21.12
300	9044	7.16	9064	13.00	9084	20.80	9144	28.60
400	9045	11.00	9065	20.00	9085	32.00	9145	44.00
600	9046	15.40	9066	28.00	9086	44.80	9146	61.60

Single Throw—Without Quick Break Attachments No Fuse

30	9047	\$1.84	9067	\$3.32	9087	\$5.34	9147	\$7.34
60	9048	1.94	9068	3.50	9088	5.60	9148	7.70
100	9049	3.04	9069	5.50	9089	8.80	9149	12.10

Type A Trumbull Switches

Back Connections—Satin Finish
251-600 Volts D. C. and 501-600 Volts A. C.



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amp. and recommends them on 100 amp. and below. Polished finish add 10 per cent. Plain finish deduct 10 per cent. 30-400 amp. incl.; above 400 amp. deduct 5 per cent. Screws are for 1-inch slate unless otherwise specified. All three and four-pole switches, 600 volt, regularly equipped with spade handles. 600-volt switches above 600 amp. add 40 per cent to 250-volt lists for those with quick break attachments, 20 per cent for those without quick break attachments.

Double Throw—With Quick Break Attachments No Fuse

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	9050	\$3.22	9070	\$5.74	9090	\$9.24	9150	\$12.72
60	9051	3.30	9071	6.00	9091	9.60	9151	13.20
100	9052	4.96	9072	9.00	9092	14.40	9152	19.80
200	9053	7.38	9073	13.40	9093	21.44	9153	29.48
300	9054	11.56	9074	21.00	9094	33.60	9154	46.20
400	9055	15.40	9075	28.00	9095	44.80	9155	61.60
600	9056	20.90	9076	38.00	9096	60.80	9156	83.60

Double Throw—Without Quick Break Attachments No Fuse

30	9057	\$2.70	9077	\$4.86	9097	\$7.80	9157	\$10.74
60	9058	2.80	9078	5.10	9098	8.16	9158	11.22
100	9059	4.08	9079	7.40	9099	11.74	9159	16.28

Type A Trumbull Switches

Back Connections—Satin Finish

251-600 Volts D. C. and 501-600 Volts A.C.

For N. E. C. Enclosed Fuses at Bottom—High Jaws



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amp. and recommends them on 100 amp. and below.

Polished finish add 10 per cent. Plain finish deduct 10 per cent. 30-400 amp. incl.; above 400 amp. deduct 5 per cent. Screws are for 1-inch slate unless otherwise specified. All three and four-pole switches, 600-volt, regularly equipped with spade handles. 600-volt switches above 600 amp. add 40 per cent to 250-volt lists for those with quick break attachments. 20 per cent for those without quick break attachments. No fuses included in above prices.

Single Throw—With Quick Break Attachments

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	9360	\$2.66	9370	\$4.82	9380	\$7.74	9390	\$10.64
60	9361	2.96	9371	5.40	9381	8.64	9391	11.88
100	9362	4.68	9372	8.50	9382	13.60	9392	18.70
200	9363	6.94	9373	12.60	9383	20.16	9393	27.72
400	9365	14.58	9375	26.50	9385	42.40	9395	58.30
600	9366	20.08	9376	36.50	9386	58.40	9396	80.30

Single Throw—Without Quick Break Attachments

30	9367	\$2.34	9377	\$4.22	9387	\$6.78	9397	\$9.32
60	9368	2.60	9378	4.70	9388	7.52	9398	10.34
100	9369	4.08	9379	7.40	9389	11.84	9399	16.28

Type A Trumbull Switches

Back Connections—Satin Finish

251-600 Volts D. C. and 501-600 Volts A. C.

For N. E. C. Enclosed Fuses at Bottom—Low Jaws



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amp. and recommends them on 100 amp. and below. Polished finish add 10 per cent. Plain finish deduct 10 per cent. 30-400 amp. incl.; above 400 amp. deduct 5 per cent. Screws are for 1-inch slate unless otherwise specified. All three and four-pole switches, 600-volt, regularly equipped with spade handles. No fuses included in above prices.

Single Throw—With Quick Break Attachments

Cap. Amps.	Single-pole Cat. No.	Price Each	Double-pole Cat. No.	Price Each	Three-pole Cat. No.	Price Each	Four-pole Cat. No.	Price Each
30	9160	\$2.54	9180	\$4.62	9280	\$7.40	9340	\$10.30
60	9161	2.76	9181	5.00	9281	8.00	9341	11.00
100	9162	4.40	9182	8.00	9282	12.80	9342	17.60
200	9163	6.60	9183	12.00	9283	19.20	9343	26.40
400	9165	13.76	9185	25.00	9285	40.00	9345	55.00
600	9166	18.70	9186	34.00	9286	54.40	9346	74.80

Single Throw—Without Quick Break Attachments

30	9167	\$2.10	9187	\$3.82	9287	\$6.12	9347	\$8.44
60	9168	2.36	9188	4.30	9288	6.88	9348	9.46
100	9169	3.90	9189	7.10	9289	11.36	9349	14.20



Type A Trumbull Switches

Back Connections—Satin Finish
251-600 Volts D. C. and 501-600 Volts A. C.
For N. E. C. Enclosed Fuses



Packed unmounted 30 to 600 amperes inclusive. 10 per cent additional for wood templet.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amp. and recommends them on 100 amp. and below. Double throw fusible switches regularly furnished with high front posts and low hinge posts. Polished finish add 10 per cent. Plain finish deduct 10 per cent. 30-400 amp. incl.; above 400 amp. deduct 5 per cent. Screws are for 1-inch slate unless otherwise specified. All three and four-pole switches, 600-volt, regularly equipped with spade handles. 600-volt switches above 600 amp., add 40 per cent to 250-volt lists for those with quick break attachments. 20 per cent for those without quick break attachments. No fuses included in above prices.

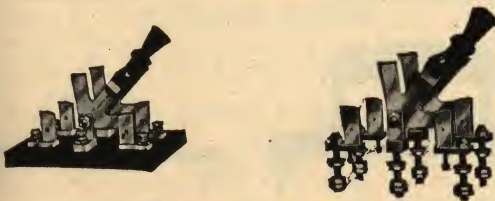
Double Throw—With Quick Break Attachments

Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each		Cat. No.	Price Each	
30	9170	\$3.74	9190	\$6.88		9290	\$10.84		9350	\$14.92	
60	9171	4.14	9191	7.50		9291	12.00		9351	16.50	
100	9172	6.88	9192	12.50		9292	20.00		9352	27.50	
200	9173	10.18	9193	18.50		9293	29.60		9353	40.70	
400	9175	20.36	9195	37.00		9295	59.20		9355	81.40	
600	9176	28.60	9196	52.00		9296	83.20		9356	114.40	

Double Throw—Without Quick Break Attachments

Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
30	9177	\$3.18	9197	\$5.76	9297	\$9.24	9357	\$12.72
60	9178	3.58	9198	6.50	9298	10.40	9358	14.30
100	9179	6.06	9199	11.00	9299	17.60	9359	24.20

Trumbull Angle Blade Switches



Front Connections—Plain Finish

Cap. Amps.	No.	Price Each	No.	Price Each	No.	Price Each
30	8750	\$1.75	8752	\$2.50	8754	\$4.00
60	8751	2.50	8753	4.00	8755	5.50

Back Connections—Satin Finish

Cap. Amps.	No.	Price Each	No.	Price Each	No.	Price Each
30	8760	\$1.80	8762	\$3.50	8764	\$5.00
60	8761	2.80	8763	5.00	8765	7.75

Trumbull Padlock Attachments

For Type A Switches

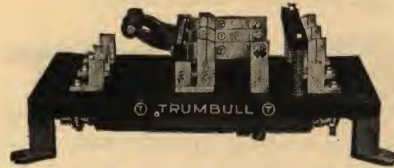
These are often used on switches to prevent the throwing into contact when working on a line. Padlocks are not regularly furnished.



Add to List of Regular Switches

PRICE, EACH			PRICE, EACH		
Amps.	Plain	Satin	Amps.	Plain	Satin
30	\$.70	\$.75	300	\$.90	\$1.00
60	.70	.75	400	1.15	1.20
100	.90	.95	600	1.55	1.65
200	.90	.95	...	...	...

Trumbull Motor Starting Switches



Type A, Back Connected, 250 Volts

The motor is started on unfused contact; the blades are to be held against spring pressure for a few seconds until speed is up, when switch is thrown into fused end which carries normal load.

The two outgoing ends of front connected switch are connected on back by copper straps, placed in grooves in slate, so that load can be taken from either end of switch. Thus only six wires (three incoming and three outgoing) are needed on a three-pole switch, eight wires on a four-pole, etc.



Type C, Front Connected, 250 Volts

Type A, Front Connected

For 250 D. C. or A. C. N. E. C. Fuses on One End Only Plain Finish

Double-pole, Double-throw			Three-pole, Double-throw			Four-pole, Double-throw		
Cap. Amp.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each	
30	1300	\$4.50	1305	\$6.00		1310	\$8.00	
60	1301	5.50	1306	7.30		1311	9.75	
100	1303	11.00	1308	14.50		1313	19.50	

For 500 Volts A. C. N. E. C. Fuses on One End Only Plain Finish

Cap. Amp.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
30	1320	\$5.25	1325	\$7.00	1330	\$9.30
60	1321	6.50	1326	8.60	1331	11.50
100	1323	12.00	1328	16.00	1333	24.50

Type A, Back Connected

For 250 Volts, D. C. or A. C. N. E. C. Fuses on One End Only Plain Finish

Cap. Amp.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
30	1400	\$7.75	1405	\$10.00	1410	\$12.50
60	1401	9.00	1406	11.50	1411	15.00
100	1403	15.25	1408	20.25	1413	27.00

For 500 Volts, A. C. N. E. C. Fuses on One End Only Plain Finish

Cap. Amp.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
30	1420	\$8.00	1425	\$10.50	1430	\$14.00
60	1421	9.00	1426	12.00	1431	16.50
100	1423	16.00	1428	21.25	1433	28.75

Type C, Front Connected

For 250 Volts, D. C. or A. C. N. E. C. Fuses on One End Only Plain Finish

Cap. Amp.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
30	1350	\$4.50	1355	\$6.00	1360	\$8.00
60	1351	5.00	1356	6.75	1361	9.00
100	1353	11.00	1358	14.00	1363	19.50

For 500 Volts, A. C. N. E. C. Fuses on One End Only Plain Finish

Cap. Amp.	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
30	1370	\$5.00	1375	\$6.50	1380	\$9.00
60	1371	6.00	1376	8.00	1381	10.50
100	1373	12.50	1378	16.50	1383	22.00

Star Delta Motor Starting Switches



Type C, Not Fused

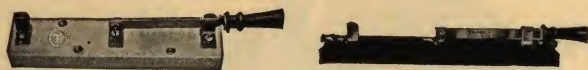
For three-phase motors, where the device does not require at starting more than 60 per cent of normal full load torque. Motor must have both ends of phase windings brought out to the terminal block. Line switch is also required as one end of the windings must be connected to the line before passing through the starting switch.

Three-pole Double-throw, not Fused						Three-pole Double-throw Fuses on One End Only					
Cap. Amps.	Cat. No.	Price Each	Cat. No.	Price Each		Cat. No.	Price Each	Cat. No.	Price Each		
30	1385	\$4.56	1395	\$4.75		1365	\$6.00	1390	\$6.00		
60	1386	5.70	1396	5.00		1366	6.54	1391	6.75		
100	1387	11.00	1397	10.50		1367	12.90	1392	12.00		



Trumbull Wireless Ground Switches

Porcelain and Asbestos Wood Bases



One end connects aerial to ground and protects against lightning. Other end connects aerial to instruments. Base cannot absorb moisture.

Single Pole, Double Throw Nos. 8747 and 8727

Periphery of blade, 1¼ inches. 4-inch break. 60-ampere stock.

Price, No. 8747, Porcelain Base.....each **\$2.00**
" " 8727, Asbestos Wood Base..... " **2.65**

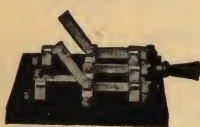
No. 8729

Periphery of blade, 2¼ inches. 4-inch break.

Price, No. 8729, Asbestos Wood Base.....each **\$3.15**

Trumbull Wireless Antenna Switches

30 Amperes—Three-pole, Double Throw—Angle Blades



Mounted on 6x6½x½-inch slate base. Used in receiving and sending wireless messages. Receive on double pole; send on three pole.

Price, No. 8728.....each **\$3.10**

Trumbull 90-degree Stops

For Type A Switches

This attachment will stop the switch when open at an angle of 90 degrees and will prevent the blade from swinging all the way back.

Add to List of Regular Switches

PRICE, EACH			PRICE, EACH		
Amps.	Plain	Satin	Amps.	Plain	Satin
30	\$.40	\$.45	400	\$.70	\$.85
60	.45	.50	600	.80	.95
100	.50	.55	800	1.00	1.30
200	.55	.60	1000	1.20	1.50
300	.60	.70	1200	1.30	1.60



Trumbull Open Position Catches

For Double Throw Type A Switches

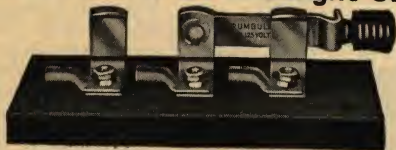
Double-throw switches must always be mounted in a vertical position or if mounted horizontally must be equipped with a stop locking attachment.

Add to List of Regular Switches

PRICE, EACH			PRICE, EACH		
Amps.	Plain	Satin	Amps.	Plain	Satin
30	\$.75	\$.85	300	\$.85	\$1.05
60	.80	.90	400	1.45	1.65
100	.80	.95	600	1.45	1.70
200	.85	1.00			



Trumbull Locomotive Headlight Switches



For use in the cab of a locomotive to control the headlight, one circuit regulating the full light, the other the dimmer.

It is a double throw switch, different from standard in that it is equipped with lugs on each hinge post and is spaced for 125 volts.

A short knob handle is used.

Cat. No.	Amp.	Description	Price Each
3001H	30	Single Pole, Single Throw	\$.75
3003H	60	" " " "	1.00
3021H	30	" " Double "	1.10
3023H	60	" " " "	1.50

Trumbull Spade Handles

Polished Black Finish



Type A



Type B



Type C

Unless specified, Type B is sent, above 60-ampere capacity. Prices include screws.

Cat. No.	Type	Cap. Amps.	Price Each	Cat. No.	Type	Cap. Amps.	Price Each
1041	A	30	\$.35	1045	B or C	800-1200	\$2.00
1042	A	60	.48	1046	B " C	1500	2.50
1043	B or C	100-200	.75	1047	B " C	2000-5000	4.00
1044	B " C	300-600	1.20				

Trumbull Angle Spade Handles

Polished Black Finish



Type A



Type B



Type C

Unless specified, Type B is sent, above 60-ampere capacity. Prices include screws.

Cat. No.	Type	Cap. Amps.	Price Each	Cat. No.	Type	Cap. Amps.	Price Each
1061	A	30	\$.35	1065	B or C	800-1200	\$2.00
1062	A	60	.48	1066	B " C	1500	2.50
1063	B or C	100-200	.75	1067	B " C	2000-5000	4.00
1064	B " C	300-600	1.20				

Trumbull Wide Spade Handles

Polished Black Finish



No. 1642



No. 1652

For Three-pole Switches, 600-volt

Regular			At Angle		
Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
1641	30	\$.56	1644	30	\$.56
1642	60	.56	1645	60	.56

For Four-pole Switches, 600-volt

Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
1646	30	\$.80	1650	30	\$.80
1647	60	.80	1651	60	.80
1648	100	1.40	1652	100	1.40
1649	200	1.50	1653	200	1.50

For Five-pole Switches, 250-volt



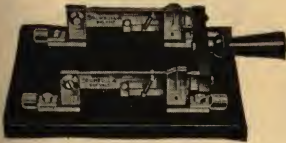
No. 1655

Regular			At Angle		
Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
1654	60	\$1.05	1657	60	\$1.05
1655	100	1.65	1658	100	1.65
1656	200	2.00	1659	200	2.00



Trumbull Quick Break Attachments

For Types A and C Switches



Type A Switch



Type C Switch

For price of switches with quick break attachments, add list of attachments required to list of regular switch.

Prices are for individual attachments. A double-pole switch requires two attachments, a three-pole requires three and a four-pole, four attachments.

For Type A Switches

250 Volts D. C.—500 Volts A. C.

Single Throw

Capacity.....amperes	30	60	100	200	300	400	600
Price, Plain Finish.....each	\$.36	.38	.40	.46	.64	.80	.92
" " Satin " " ..	.48	.50	.56	.68	.88	1.12	1.28

Double Throw

Capacity...amperes	30	60	100	200	300	400	600
Price, Plain Finish.....each	\$.72	.76	.82	.94	1.28	1.60	1.84
Price, Satin Finish.....each	.96	1.00	1.10	1.36	1.76	2.24	2.56

For Type C Switches

250 Volts D. C.—500 Volts A. C.

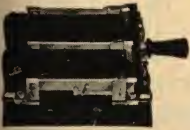
Single Throw

Capacity.....amperes	30	60	100	200
Price, Plain Finish.....each	\$.42	.46	.50	.56

Trumbull Slate Barriers

For 251-600 Volt D. C. Switches

For 501-600 Volt A. C. Switches



Designed to reduce spacings for switches used in boxes. Prices are for each barrier. To equip a three-pole switch, two barriers are required; a four-pole switch, three barriers, etc.

For 600-volt Switches

Capacity Switch.....amperes	30	60	100	200	300
Price, for No Fuse.....each	\$.34	.34	.36	.36	.36
" " Fusible Bottom....."	.54	.54	.54	.54	...
" " Top....."	.54	.60	.66	.66	...

Trumbull Solid Neutral Switches

Three Pole—Types A or C

Type 1



Solid neutral. Lug on center hinge post. Wire to be run to this post. Switches constructed in this way furnished at regular lists.

Type 2



Solid neutral strap furnished at additional price. Any three-pole switch can be equipped with either type of solid neutral. Prices upon application.

Trumbull Standard Fuse Clips

For N. E. C. Fuses



No. 3A



No. 3C



No. 3K, 3P



No. 1021A

Clips are downbent to prevent turning, 1/2-inch separation on 3-30 amps. and 3/8-inch on 31-60 amp. clips. Type A style regularly furnished.

For 250-volt Fuses

Cat. No.	Capacity Amps.	Std. Pkg.	Wt., Lbs. per 100	PRICE, EACH	
				Plain Finish	Satin Finish
3A or C	3-30	100	1 1/4	\$.03	\$.04
3K	3-30	100	1 1/4	.03	.04
3P	3-30	100	1 1/4	.03	.04
4A or C	31-60	100	3 1/4	.065	.08
1021A	61-100	100	16	.36	.44
1021C	61-100	100	16	.14	.175
1023A	101-200	100	32	.50	.64
1023C	101-200	100	32	.30	.375

For 600-volt Fuses

103A or C	3-30	100	1 1/4	.06	.075
104A or C	31-60	100	3 3/4	.09	.11
1022A	61-100	100	16	.36	.44
1022C	61-100	100	16	.14	.175
1024A	101-200	100	32	.50	.64
1024C	101-200	100	32	.30	.375

Trumbull Fuse Holders

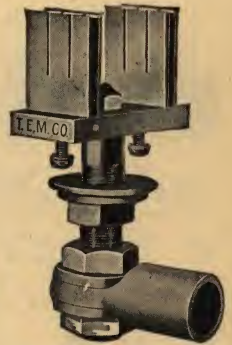
Back Connections—Square Posts



Type K
Extended
Posts



Type F
3-60
Amps.
Square
Posts



Type K
601-1200 Amps.

Extended posts furnished at slight increase in price, but are not made above 600 amperes. Fuse contacts for back connections are furnished with lugs, lug nuts and studs for bases 1 inch thick, unless otherwise specified.

Back connected contacts 3-30 amp. no lugs.

250 Volts

Cat. No.	Capacity Amps.	Lgths., Stud Inches	PRICE, EACH	
			Plain Finish	Satin Finish
1070	3-30	2 7/8	\$.20	\$.25
*1070S	3-30	2 7/8	.20	.25
1071	31-60	3 3/8	.34	.40
*1071S	31-60	3 3/8	.34	.40
†1073	61-100	3 5/8	.80	.90
†1074	101-200	3 7/8	1.20	1.40
†1075	201-400	4 1/4	2.80	3.20
†1076	401-600	4 1/2	4.00	4.50
1077	601-800	5 1/8	7.50	8.20
1078	801-1000	5 7/8	10.00	11.00
1096	1001-1200	5 7/8	10.00	11.00

600 Volts

1070 1/2	3-30	2 7/8	.23	.30
*1070 1/2 S	3-30	2 7/8	.23	.30
1071 1/2	31-60	3 3/8	.37	.45
*1071 1/2 S	31-60	3 3/8	.37	.45
1077 1/2	601-800	5 1/8	7.50	8.20
1079	801-1000	5 7/8	10.00	11.00
1096 1/2	1001-1200	5 7/8	10.00	11.00

†250 and 600 volts.

*These fuse holders are for use with switches.



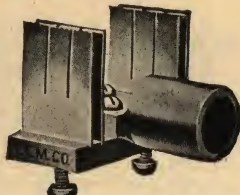
Trumbull Fuse Holders Front Connections



Type F
3-60
Amps.



Type K
61-600
Amps.



Type K
601-1200
Amps.

Furnished with screws for bases $\frac{1}{2}$ inch thick, unless otherwise specified.

		250 Volts	PRICE, EACH	
Cat. No.	Capacity Amps.	Description	Plain Finish	Satin Finish
*1048	3-30	No Lug	\$.20	\$.26
1049	31-60	With "	.32	.40
1051	61-100	" "	.50	.64
1052	101-200	" "	.80	1.00
1053	201-400	" "	1.90	2.25
1054	401-600	" "	2.50	2.90
1055	601-800	" "	4.10	4.80
1056	801-1200	" "	5.25	6.25
		600 Volts		
1048½	3-30	No Lug	\$.23	\$.29
1049½	31-60	With "	.35	.45

Trumbull Wire Connectors For Solid and Stranded Cable



With 2 Screws

With 4 Screws

Wire hole extends all the way through the connector.

Two Screw								
Cat. No.	Length Inches	DIAM. Outside	INCHES Inside	LARGEST Solid	WIRE Stranded	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2200	1 $\frac{1}{2}$	$\frac{5}{16}$	.106	12	....	100	3 $\frac{1}{4}$	\$.05
2201	1 $\frac{1}{2}$	$\frac{5}{16}$	.147	8	....	100	3	.06
2202	1 $\frac{3}{4}$	$\frac{3}{8}$	.185	6	8	100	5	.07
2203	1 $\frac{7}{8}$	$\frac{7}{16}$	.228	4	5	100	6 $\frac{3}{4}$	.08
2204	1 $\frac{7}{8}$	$\frac{1}{2}$	$\frac{9}{32}$	2	3	100	7 $\frac{1}{2}$	.10
2205	1 $\frac{7}{8}$	$\frac{9}{16}$	$\frac{3}{32}$	0	2	50	4 $\frac{3}{4}$	.12
2206	1 $\frac{7}{8}$	$\frac{5}{8}$	$\frac{3}{8}$	00	1	50	5 $\frac{3}{4}$	.14
Four Screw								
2207	1 $\frac{7}{8}$	$\frac{7}{16}$	.228	4	5	100	7 $\frac{1}{2}$	\$.09
2208	1 $\frac{7}{8}$	$\frac{1}{2}$	$\frac{9}{32}$	2	3	100	8 $\frac{3}{4}$	.11
2209	1 $\frac{7}{8}$	$\frac{9}{16}$	$\frac{3}{32}$	0	2	50	5	.13
2210	1 $\frac{7}{8}$	$\frac{5}{8}$	$\frac{3}{8}$	00	1	50	6	.15
2211	2	$\frac{11}{16}$	$\frac{7}{16}$	000	00	50	7 $\frac{1}{4}$	.22
2212	2	$\frac{3}{4}$	$\frac{1}{2}$	0000	000	50	8 $\frac{1}{4}$	.28
2213	2 $\frac{3}{16}$	$\frac{7}{8}$	$\frac{9}{16}$	....	0000	25	6 $\frac{1}{4}$	.38

Trumbull 45 Degree Angle Cast Lug All Plain Finish—For Back Connections



No. 8703					
Cat. No.	Amps.	Capacity of Wire Hole	SIZE, INCHES		Price Each
			Wire Hole	Stud Hole	
8700	60	No. 5	$\frac{1}{4}$	$\frac{3}{4}$	\$.10
8702	100	" 1	$\frac{3}{8}$	$\frac{7}{8}$	.21
8703	200	No. 0000	$\frac{9}{16}$	$\frac{1}{2}$	.36
8704	300	300000 C.M.	$\frac{11}{16}$	$\frac{1}{2}$	.68
8705	400	475000 "	$\frac{7}{8}$	$\frac{1}{2}$	1.24
8706	600	750000 "	$1\frac{1}{8}$	1	1.72
8707	800	1000000 "	$1\frac{1}{4}$	$1\frac{3}{16}$	3.40
8708	1000	1400000 "	$1\frac{1}{2}$	$1\frac{3}{8}$	3.90

Trumbull Type L Cast Terminal Lugs For Front Connections



No. 1225



No. 1231

Cat. No.	Amps.	Capacity of Wire Hole	Wire Hole Inches	PRICE, EACH	
				Plain	Satin
1221	60	No. 5	$\frac{1}{4}$	\$.06	\$.10
1223	100	" 1	$\frac{3}{8}$	.14	.21
1224	200	No. 0000	$\frac{9}{16}$	.24	.35
1225	300	300000 C. M.	$\frac{11}{16}$	.42	.62
1226	400	475000 C. M.	$\frac{7}{8}$	.76	1.00
1227	600	750000 C. M.	1 $\frac{1}{8}$	1.06	1.30
1228	800	1000000 C. M.	1 $\frac{1}{4}$	2.10	2.50
1228 $\frac{1}{2}$	1000	1400000 C. M.	1 $\frac{1}{2}$	2.40	2.90
1229	1200	1800000 C. M.	1 $\frac{3}{8}$	3.00	3.50
1230	1500	Two 1000000 C. M.	1 $\frac{3}{4}$	6.00	7.00
1231	2000	" 1400000 C. M.	1 $\frac{1}{2}$	8.50	10.00

Trumbull Type N Cast Terminal Lugs For Front Connections



No. 1248

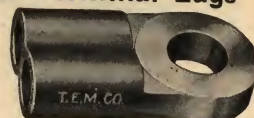
Type N lugs in 30, 60, 100 and 200-ampere sizes, are regularly furnished stamped from tubing. Cast lugs furnished on request at same price. In ordering, specify whether plain or satin finish is desired.

Cat. No.	Amps.	Capacity of Wire Hole	Wire Hole Inches	PRICE, EACH	
				Plain	Satin
1245	30	No. 7	$\frac{3}{16}$	\$.03	\$.06
1246	60	" 5	$\frac{1}{4}$	.06	.10
1248	100	" 1	$\frac{3}{8}$	.14	.21
1249	200	No. 0000	$\frac{9}{16}$	.24	.35
1250	300	300000 C. M.	$\frac{11}{16}$	.42	.62
1251	400	475000 C. M.	$\frac{7}{8}$	.76	1.00
1252	600	750000 C. M.	1 $\frac{1}{8}$	1.06	1.30
1253	800	1000000 C. M.	1 $\frac{1}{4}$	2.10	2.50
1254	1000	1400000 C. M.	1 $\frac{1}{2}$	2.40	2.90

Trumbull Type M Cast Terminal Lugs



For Back Connections



No. 1238			No. 1241		
Cat. No.	Amps.	Capacity Wire Hole	SIZE, INCHES Wire Hole	Stud Hole	Price, Each Plain
1232	60	No. 5	$\frac{1}{4}$	$\frac{21}{64}$	\$.06
1234	100	" 1	$\frac{3}{8}$	$\frac{25}{64}$	.14
1235	200	No. 0000	$\frac{11}{16}$	$\frac{11}{16}$	.24
1236	300	300000 C. M.	$\frac{11}{16}$	$\frac{11}{16}$	.42
1237	400	475000 C. M.	$\frac{7}{8}$	$\frac{13}{16}$	.76
1238	600	750000 C. M.	$1\frac{1}{8}$	1	1.06
1239	800	1000000 C. M.	$1\frac{1}{4}$	$1\frac{3}{16}$	2.10
1239 $\frac{1}{2}$	1000	1400000 C. M.	$1\frac{1}{2}$	$1\frac{3}{16}$	2.40
1240	1200	1800000 C. M.	$1\frac{3}{8}$	$1\frac{3}{16}$	3.00
1241	1500	Two 1000000 C. M.	$1\frac{3}{4}$	$1\frac{3}{8}$	6.00
1242	2000	" 1400000 C. M.	$1\frac{1}{2}$	$1\frac{3}{8}$	8.50

Trumbull Single Hole Cast Terminal Lugs For Back Connections



No. 8723						
Cat. No.	Amps.	No. of Lugs per Stud	Capacity of Wire Hole	SIZE, INCHES		Price, Each Plain
				Wire Hole	Stud Hole	
8720	1500	2	1000000 C. M.	1 $\frac{1}{4}$	1 $\frac{1}{2}$	\$4.00
8721	2000	2	1000000 C. M.	1 $\frac{1}{4}$	1 $\frac{3}{4}$	4.20
8722	2500	2	1000000 C. M.	1 $\frac{1}{4}$	2 $\frac{1}{4}$	4.50
8723	3000	3	1000000 C. M.	1 $\frac{1}{4}$	2 $\frac{3}{16}$	4.80
8724	4000	4	1000000 C. M.	1 $\frac{1}{4}$	2 $\frac{7}{16}$	5.40
8725	5000	5	1000000 C. M.	1 $\frac{1}{4}$	2 $\frac{3}{4}$	6.00



Sherman Soldering Lugs



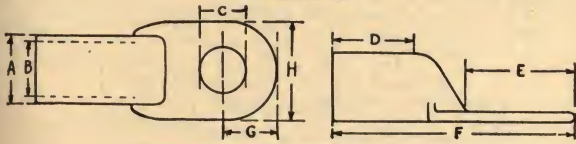
U. S. Pat. Reissue 14401

These soldering lugs or drawn copper terminals are now approved and listed by the Underwriters' Laboratories. The requirements are very exacting, and the designs and dimensions have been very carefully worked out to secure rating as approved fittings.

Round End

Size Inches	Amp. Cap. Rubber Insl. Conductors N. E. C. Std.	Max. Strand- ed Wire B. and S. Gauge	Approx. Weight Pounds per 1000	Size Inches	Amp. Cap. Rubber Insl. Conductors N. E. C. Std.	Max. Strand- ed Wire B. and S. Gauge	Approx. Weight Pounds per 1000
3/16	25	10	4	1/2	125	0	29 1/4
1/4	35	8	5 1/4	9/16	150	00	43 1/2
5/16	50	6	9 1/4	5/8	175	000	51
3/8	70	4	13 3/4	11/16	225	0000	65
7/16	90	2	22 1/2	13/16	237	*250000	145

Dimensions



Approximate Dimensions, Inches

A	B	C	D	E	F	G	H
3/16	.1368	9/32	3/8	15/32	15/16	7/8	1 1/2
1/4	.186	3/16	3/8	1 1/2	1 3/4	7/8	1 3/4
5/16	.232	3/16	3/8	1 3/4	1 7/8	1 1/4	1 7/8
3/8	.285	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8
7/16	.336	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8
1/2	.398	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8
5/8	.461	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8
3/4	.511	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8
7/8	.559	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8
1 1/8	.651	3/16	3/8	1 7/8	1 3/4	1 1/2	1 7/8

Square ends furnished in above sizes, if required. Bottom not seamless. Over all dimensions the same.

Square End

Size Inches	Amp. Cap. Rubber Insl. Conductors N. E. C. Std.	Max. Strand- ed Wire B. and S. Gauge	Approx. Weight Pounds per 1000
3/16	325	*400000	190
1/4	362	*450000	275
5/16	400	*500000	315
3/8	450	*600000	375
7/16	550	*800000	640
1/2	650	*1000000	760
5/8	850	*1500000	1390
3/4	1050	*2000000	2450

Approximate Dimensions, Inches

A	B	C	D	E	F	G	H
3/16	.776	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
1/4	.82	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
5/16	.88	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
3/8	.943	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
7/16	1.084	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
1/2	1.21	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
5/8	1.46	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2
3/4	1.66	1 1/2	1 3/8	1 5/8	3 3/8	3 3/4	1 1/2

*Circular mils.

Sizes 1/4 to 3/4 inch furnished round end, unless otherwise specified. Sizes 5/8 inch and larger furnished square end unless otherwise specified.

STUD HOLE.—Size or position of stud hole may be changed or lugs furnished without stud holes at no additional charge. Any variation should be carefully specified.

TINNING.—Lugs tinned inside of tubular portion will be furnished at extra charge, depending on size.

MARKING.—For identification, as approved fittings, lugs will be marked with letter S and Underwriters' rating in amperes, placed crosswise of the flat portion at wire end.

To Select Terminals According to the N. E. C. Ratings Governing Knife Switches, Use the Following Equivalents

Cap. Amp.	Size Lug In.	Cap. Amp.	Size Lug In.	Cap. Amp.	Size Lug In.	Cap. Amp.	Size Lug In.
30	1/4	100	1/2	400	1 1/8	800	1 3/4
60	3/8	200	1 1/8	600	1 1/2	1000	2 1/8

Sherman Soldering Lugs

Two-hole

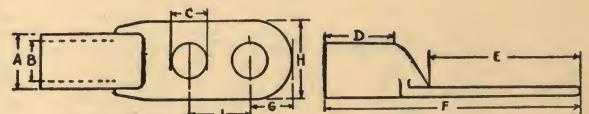


Two-hole lugs are made from seamless tubing and furnished square end, unless otherwise specified.

Flat portion (E) may be made to order either longer or shorter but tubular portion (D) cannot be changed.

Size Inches	Amp. Cap. Rubber Insl. Conductors N. E. C. Std.	Max. Strand- ed Wire B. and S. Gauge	Approx. Weight Pounds per 1000
3/16	25	10	5 1/4
1/4	35	8	7 1/4
5/16	50	6	13 1/4
3/8	70	4	19 1/2
7/16	90	2	32
1/2	125	0	44
5/8	150	00	67
11/16	175	000	90
	225	0000	93
13/16	237	250000 c. m.	218
15/16	325	400000 "	255
1 1/16	400	500000 "	405
1 1/8	450	600000 "	475
1 1/4	550	800000 "	835
1 1/2	650	1000000 "	1030
1 3/4	850	1500000 "	1810
2 1/16	1050	2000000 "	3040

Dimensions



APPROXIMATE DIMENSIONS, INCHES

A	B	C	D	E	F	G	H	J
3/16	.1368	3/32	3/8	3/4	1 3/4	5/8	1 1/2	3/8
1/4	.186	7/16	3/8	7/8	1 3/4	3/4	1 3/4	7/16
5/16	.232	3/2	3/8	1 1/16	1 3/4	1/4	1 7/8	1/2
3/8	.285	1/4	7/16	1 1/4	1 3/4	5/16	1 7/8	5/8
7/16	.336	9/32	1/2	1 3/8	2 1/8	5/8	1 7/8	1 1/8
1/2	.398	3/2	5/8	1 1/2	2 5/8	3/4	1 7/8	1 1/2
5/8	.461	1 1/2	1 1/8	2	3 1/8	1 1/2	1 7/8	1 1/2
3/4	.511	1 3/2	1 1/2	2	3 1/8	1 1/2	1 7/8	1 1/2
7/8	.559	1 3/2	1 1/2	2 1/8	3 1/4	1 1/2	1 7/8	1 1/2
1 1/8	.651	1 3/2	1 1/2	2 5/8	4	1 1/2	1 7/8	1 1/2
1 1/4	.776	1 3/2	1 1/2	2 3/4	4 1/2	1 1/2	1 7/8	1 1/2
1 1/2	.88	1 3/2	1 1/2	3 1/4	5 3/8	1 1/2	1 7/8	1 1/2
1 3/4	.943	1 3/2	1 1/2	3 3/8	5 9/8	1 1/2	1 7/8	1 1/2
1 5/8	1.084	1 3/2	1 1/2	3 5/8	6 1/8	1 1/2	1 7/8	1 1/2
1 7/8	1.21	1 3/2	1 1/2	4 3/8	7 1/4	1 1/2	1 7/8	1 1/2
1 3/4	1.46	1 3/2	1 1/2	5 1/8	8 5/8	1 1/2	1 7/8	1 1/2
2 1/16	1.66	1 3/2	1 1/2	5 3/8	9 1/4	1 1/2	1 7/8	1 1/2

TINNING.—Lugs tinned inside of tubular portion will be furnished at extra charge, depending on size.

MARKING.—For identification as approved fittings, lugs will be marked with letter S and Underwriters' rating in amperes, placed crosswise of the flat portion at wire end.



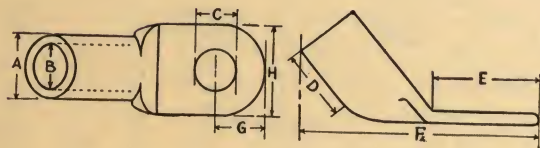
Sherman Soldering Lugs

45-degree



Size Inches	Amp. Cap. Rubber Insl. Conductors N. E. C. Std.	Max. Stranded Wire B. and S. Gauge	Approx. Weight Pounds per 1000
3/16	25	10	4
1/4	35	8	5 1/4
5/16	50	6	9 1/4
3/8	70	4	13 3/4
7/16	90	2	22 1/2
1/2	125	0	29 1/4
9/16	150	00	43 1/2
5/8	175	000	51
11/16	225	0000	65
13/16	237	250000 c. m.	145
15/16	325	400000 "	190
1	362	450000 "	275
1 1/16	400	500000 "	315
1 1/8	450	600000 "	375
1 1/4	550	800000 "	640
1 1/2	650	1000000 "	760
1 3/4	850	1500000 "	1390
2 1/16	1050	2000000 "	2450

Dimensions



APPROXIMATE DIMENSIONS, INCHES							
A	B	C	D	E	F	G	H
3/16	.1368	9/64	3/8	15/32	11/16	7/32	1 1/4
1/4	.186	3/16	3/8	1 1/2	1 1/8	7/32	1 3/8
5/16	.232	3/8	3/8	1 3/4	1 1/4	1/4	1 5/8
3/8	.285	1/2	1/2	1 7/8	1 1/2	9/32	1 7/8
7/16	.336	5/8	1 1/2	2 1/8	1 3/4	1/2	2 1/8
1/2	.398	3/4	1 3/4	2 3/4	1 7/8	5/8	2 3/4
9/16	.461	7/8	2	3 1/8	2 1/4	3/4	3 1/8
5/8	.511	1	2 1/4	3 1/2	2 3/4	7/8	3 1/2
11/16	.559	1 1/8	2 3/4	3 3/4	3 1/4	1	3 3/4
13/16	.651	1 1/4	3	4 1/8	3 3/4	1 1/8	4 1/8
15/16	.776	1 3/8	3 1/4	4 3/4	4 1/4	1 3/8	4 3/4
1	.82	1 1/2	3 1/2	5 1/8	4 3/4	1 1/2	5 1/8
1 1/16	.88	1 5/8	3 3/4	5 3/4	5 1/4	1 5/8	5 3/4
1 1/8	.943	2	4	6 1/4	5 3/4	2	6 1/4
1 1/4	1.084	2 1/8	4 1/2	7 1/8	6 3/4	2 1/8	7 1/8
1 1/2	1.21	2 3/8	5	8 1/4	7 3/4	2 3/8	8 1/4
1 3/4	1.46	2 7/8	5 1/2	9 1/4	8 3/4	2 7/8	9 1/4
2 1/16	1.66	3 1/4	6 1/4	10 1/4	9 3/4	3 1/4	10 1/4

STUD HOLE.—Size or position of stud hole may be changed or lugs furnished without stud holes at no additional charge. Any variation should be carefully specified.

TINNNG.—Lugs tinned inside of tubular portion will be furnished at extra charge, depending on size.

MARKING.—For identification as approved fittings, lugs will be marked with letter S and Underwriters' rating in amperes, placed crosswise of the flat portion at wire end.

Sherman Drawn Copper Connectors

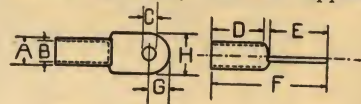


The connector consists of two seamless terminals, so constructed that when bolted to-

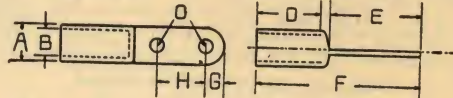
gether both halves are in perfect alignment, and no part projects beyond the circumference of the tubular portion, so that a piece of flexible conduit or fibre sleeve may be slipped over the entire connection for insulation.

While two pieces are required to make one complete connector, they are described and listed by single pieces. Connectors are not shipped assembled, as they cannot be applied in that way.

On account of its small size, only the 1/4-inch connector is made wider than tubular part.



Size (A) In.	Wire B & S Gauge	Maximum Stranded	APPROXIMATE DIMENSIONS, INCHES							Approx. Wt., Lbs. per 1000
			B	C	D	E	F	G	H	
1/4	8		.186	11/64	3/8	19/32	1 1/32	9/32	3/8	9



These sizes have two stud holes. Two bolts and nuts are required for each complete connector, consisting of two pieces.

Maximum Stranded Wire		APPROXIMATE DIMENSIONS, INCHES								Approx. Wt., Lbs per 1000
Size (A) In.	B & S Gauge	B	C	D	E	F	G	H		
3/8	4	.285	1 1/4	9/16	2 3/4	1 5/8	7/8	3/8	25	
1/2	0	.398	1 3/4	1 1/4	1 1/4	2 3/8	1 1/4	5/8	52	
5/8	000	.511	1 7/8	1 3/4	1 1/2	2 1/2	3/8	7/8	85	
13/16	250000 CM	.651	1 7/8	1 1/4	2 1/8	3 5/8	7/16	1 1/8	228	
15/16	400000 CM	.776	2	1 1/2	2 1/4	4	1 1/2	1 1/4	250	
1	450000 CM	.82	2 1/8	1 1/2	2 1/8	4 3/8	1 1/2	1 1/4	310	
1 1/16	500000 CM	.88	2 1/8	1 3/4	2 3/8	4 1/2	5/8	1 3/8	325	
1 1/8	800000 CM	1.084	2 3/4	2	2 3/8	5	5/8	1 3/8	350	
1 1/4	1500000 CM	1.46	3 1/4	2 3/8	3 3/8	6 3/8	3 3/4	1 3/4	625	
1 1/2	2000000 CM	1.66	3 1/2	2 5/8	3 3/8	6 3/4	3 3/4	1 3/4	1350	

Bolts and nuts will not be furnished unless specified. Can be furnished in plain or coppered.

Nuts and Bolts

Size Connector Inches	Size Bolts Inches	No. in Standard Package	Approx. Wt., Lbs. per 1000
1/4, 3/8, 1/2	3/8 x 1/4	500	7
5/8, 13/16	1/2 x 3/8	200	17
15/16	5/8 x 1/2	100	....
1	3/4 x 5/8	100	....
1 1/16	7/8 x 3/4	50	....
1 1/8	1 x 3/4	100	....
1 1/4	1 1/8 x 7/8	100	....
2 1/16	1 1/2 x 1 1/8	50	....

Sherman Fixture Connectors



Made of heavy brass. Has two heavy non-removable headed screws and a brass sleeve. The Sherman Fixture Connector cannot rust and assures high conductivity.

Will connect all wires up to No. 12 with a maximum of two No. 12 solid or three No. 14 in either end.

Packed in small containers, insuring neat shelf stock and safe deliveries.

Carton, 100 each. Standard package, 500. Standard package weight, 12 pounds.

Price.....per 100 \$10.00



Reliable Sleeve Connectors



Reliable Double Tube Copper Sleeves are accurately made from pure soft copper and are brazed throughout their entire length.

Reliable Split Sleeves are made for attaching drop wires and branch circuits to the main line without cutting the main line wires.

Reliable Tinned Copper Sleeves for splicing iron wires are made for all sizes of iron wire.

For splicing two wires of different sizes, use Reliable Combination Sleeves.

Split single tube tinned copper soldering connectors for splicing cable wires are made in sizes No. 0000 to No. 16 B. & S. gauge.

Use standard lineman's splicing clamps for twisting sleeves—three full turns for copper sleeves and two and one-half turns for tinned copper sleeves.

Reliable sleeves are also made in half lengths.

Double Tube Copper Sleeves

Standard Sizes

Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100	Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100
0000 B&S	.460	20	155	10 B&S	.101	4 3/4	3 1/2
000 "	.410	18	107	10 BWG	.134	5 1/2	7
00 "	.365	16	71	10 NBS	.128	5 1/2	7
0 "	.325	14	55	11 BWG	.120	5 1/4	6 1/2
1 "	.289	12	38	12 "	.109	4 3/4	4
2 "	.258	9 1/2	23	12 NBS	.104	4 3/4	3 3/4
3 "	.229	8 3/4	20	12 B&S	.080	4 1/2	3
4 "	.204	6 3/4	13	14 NBS	.083	4 1/2	3
5 "	.182	6	11	14 B&S	.064	4	2
6 "	.162	6 3/4	12	.....	.....	.....	.....
7 "	.144	5 3/4	9	16 B&S	.050	4	2
8 "	.128	5 1/2	7	17 "	.045	4	1 3/4
8 BWG	.165	6 3/4	12	.....	.....	.....	.....
9 B&S	.114	5 1/4	6 1/2	18 B&S	.040	4	1 1/4

Combination Sizes

Gauge Wire	Length Sleeve Inches	Wt., Lbs. per 100	Gauge Wire	Length Sleeve Inches	Wt., Lbs. per 100
8BWGx12NBS	6 3/4	12	12x14 B&S	4	2 1/2
8x10 B&S	5 1/2	7	12x16 "	4	1 3/4
10x12 "	4 3/4	3	12x17 "	4	1 3/8
10x14 "	4 3/4	2 3/4	12x18 "	4	1 1/8
10x16 "	4 3/4	2	14x17 "	4	1 1/2
10x17 "	4 3/4	2	14x18 "	4	1 1/2
10x18 "	4 3/4	2	.....	.....	.....

Split Sizes

Gauge Wire	Length Sleeve Inches	Wt., Lbs. per 100	Gauge Wire	Length Sleeve Inches	Wt., Lbs. per 100
10x10 B&S	4 3/4	3 1/2	12x16 B&S	4 1/2	1 3/4
10x12 "	4 3/4	3	14x14 "	4	2
12x12 "	4 1/2	2 3/4	14x16 "	4	1 3/4
12x14 "	4 1/2	2 1/2	.....	.....	.....

Copper Sleeves for Seven-strand Copper Wire

Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100	Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100
0000 B&S	.530	20	177	0 B&S	.375	16	71
000 "	.470	20	155	1 "	.330	14	55
00 "	.420	18	107	2 "	.291	12	38

Tinned Steel Sleeves for Iron Wire

Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100	Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100
8 BWG	.165	6 3/4	8 1/2	12 BWG	.109	4 3/4	3 3/4
9 "	.148	5 3/4	7	14 "	.083	4 1/2	3
10 "	.134	5 1/2	5 1/2	.....	.....	.....	.....

Tinned Copper Sleeves for Galvanized Iron Strand

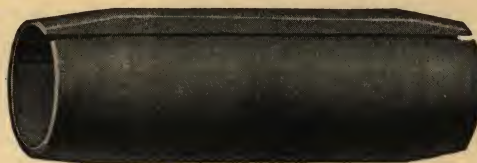
Diam. of Strand	Length In.	Wt. Lbs. per 100	Diam. of Strand	Length In.	Wt. Lbs. per 100
1/4	9 1/2	26	3/8	16	92
5/16	14	50	.....	.....	.....

Tinned copper sleeves for iron wire take the same price as standard copper sizes of nearest diameter plus a small charge for tinning.

Prices upon application.

National Single Tube Connectors

For Splicing Underground Power Transmission Cables



These sleeves are split their entire length to enable the hot solder to flow evenly around the cable and are covered with a coating of tin to permit easy soldering. The ends are beveled so that there will not be the possibility of the building up of a high potential occasioned by sharp corners.

Cat. No.	Size Cond.		DIAMETER, INCHES		Length Inches	Ship. Wt., Lbs. per 100
			Cable	Approx. Inside Sleeve		
325	12 B&S	Solid	.081	.086	2	1
326	10 B&S	"	.102	.107	2	1½
327	10 B&S	Strand	.115	.120	2	2
328	8 B&S	Solid	.128	.133	2	2
329	6 B&S	"	.162	.167	2	3
330	6 B&S	Strand	.183	.190	2	4½
331	5 B&S	Solid	.182	.188	2	4
332	5 B&S	Strand	.206	.212	2	5
333	4 B&S	Solid	.204	.210	2	5
334	4 B&S	Strand	.231	.240	2	5½
335	3 B&S	Solid	.229	.235	2	5
336	3 B&S	Strand	.261	.270	2	6
337	2 B&S	"	.291	.299	2	6
338	1 B&S	"	.330	.340	2	7
339	0 B&S	"	.375	.381	2	8
340	00 B&S	"	.420	.428	2	9
341	000 B&S	"	.470	.482	2	12
342	0000 B&S	"	.530	.540	2¼	15
343	200000	C. M.	.512	.522	2¼	14
344	250000	"	.575	.585	2¼	24
345	300000	"	.630	.642	2½	28
346	350000	"	.679	.693	2½	33
347	400000	"	.728	.741	2¾	38
348	450000	"	.770	.785	2¾	43
349	500000	"	.819	.828	3	48
350	550000	"	.855	.867	3	50
351	600000	"	.891	.907	3	57
352	650000	"	.927	.944	3	60
353	700000	"	.963	.981	3	65
354	750000	"	.999	1.016	3½	87
355	800000	"	1.035	1.048	3½	91
356	850000	"	1.062	1.081	3½	98
357	900000	"	1.092	1.112	3½	100
358	950000	"	1.125	1.145	3½	107
359	1000000	"	1.152	1.175	4	118
360	1250000	"	1.289	1.314	4	173
361	1500000	"	1.412	1.437	5	205
362	1750000	"	1.526	1.556	5½	250
363	2000000	"	1.630	1.665	6	310
364	2500000	"	1.819	1.854	6½	370

National Single Tube Split and Tinned Cable Sleeves

For Large Gauge Telephone Cable

It is not desirable to splice large gauge telephone cables used in long distance or toll line work by ordinary hand methods, as the joints thus formed would take up too much space.

For this work a single tube sleeve is provided, split its entire length and covered with a coating of tin, to permit of easy soldering. In this way the joint is solid and compact and at the same time an extremely efficient electrical connection is obtained.

Cat. No.	Gauge B. & S.	Diam., Wire	Length Inches	Wt., Lbs. per 1000	Cat. No.	Gauge B. & S.	Diam., Wire	Length Inches	Wt., Lbs. per 1000
260	10	.102	1 1/2	5	62	14	.064	1 1/2	4
61	13	.072	1 1/2	4	63	16	.051	1 1/2	3

Prices on application.



Dossert Solderless Connectors

Type A Two-way Connectors



Type A connector is for use on cable, stranded or solid wire rod and tubing. The connector should not

be used on a cable that is subjected to heavy strains. Sleeve is tapered at both ends and slotted lengthwise.

Type B Two-way Connectors

Is for use on stranded wire or cable only and is designed to make a joint which will withstand heavy tensile strains.



Type B connector is fitted with rings, one of which fits over bare cable, while the other is forced under first or second layer of strands, giving great tensile strength. Not made for conductors smaller than No. 0.

Type C Two-way Connectors

Type C two-way connector is furnished with round nuts and nipples which fit it for use on high-tension circuits. All connectors can be furnished Type C in either Type A or B. When ordering state type desired, and give circular millage or gauge number of wire and state whether wire is solid or stranded. For example: 12 two-ways, Type C, Type A for 0000 stranded wire.



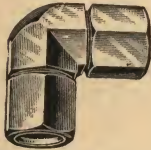
Reducers

Reducer is made in two-ways and three-ways. Illustration shows a Two-way Reducer. Used for connecting solid or stranded connectors of different diameters end to end. For cable it can be furnished either Type A or B.



When ordering reducers, state type desired, and give circular millage of cable or diameter of rod, or gauge number of wire and state whether wire is solid or stranded.

Elbows



The elbow is used to connect conductors that are at right angles to each other. It consists of a right angle nipple, two compression nuts, and two tapered compression sleeves when Type A, or two sets of rings when Type B. The elbow can be

furnished for any two sizes of cable, wire, rod or combinations of same. When ordering, give same information as is required for Type A or B Two-way Connectors.

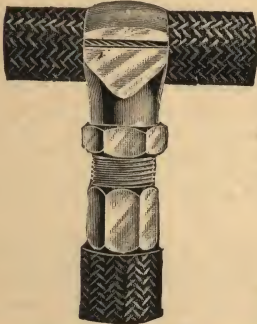
Three-way Connectors

The three-way connector is used to make a three-way splice when the cables are at right angles to each other, that is, to splice two main wires or cables in a straight line and at the same time connect a branch wire to the main.



Type A can be furnished to connect any three sizes of wire, cable, rod or combinations and Type B to connect any three sizes of cable.

Cable Taps



The cable tap is used to connect a branch wire, rod or bleeder to a main wire, rod or bleeder. It does not splice the main, but simply clamps on to it. Equalizers are combinations of two cable taps. They can be furnished to equalize the load on any two sizes of cable.

Front Lugs

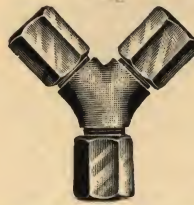
The front-connected lug is used for connect-



ing wires and cables to flat bus bars or front-connected switches, and for terminals on large machines used in the generation and conversion of current such as rotary converters, etc. The wire end of lug is equipped with a tapered nut and sleeve, by means of which the cable is held in the lug and electrical contact secured.

Dossert Solderless Connectors

Type Y Connectors

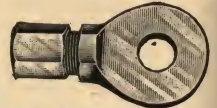


Type Y connector is used to make a three-way splice when the cables are not at right angles to each other. It consists of the Y-shaped three-way nipple, three compression nuts, and three tapered compression sleeves when Type A, or three sets of rings when Type B. Branches are double prongs and stem single prong. The special Y is used to make a three-way

splice when all cables are parallel to each other. It consists of a U-shaped three-way nipple, three compression nuts, and three tapered compression sleeves when Type-A, or three sets of rings when Type B.

Back Lugs

Back-connected lug is used to connect wire or cable to bolt or stud. Wire end of lug is equipped with tapered nut and sleeve, by which cable is held in lug and electrical contact secured. The lug is connected to stud or bolt in the usual manner by means of contact nuts.



Angle Lugs



Angle lug is furnished with rectangular or round contact surface, the dimensions of which correspond respectively with those of front or back-connected lugs for the corresponding sizes of wire or cable. Can be furnished to connect cable at any angle, but standard angles are 45 and 90 degrees. Contact surface is furnished undrilled, but, if desired, bolt holes will be drilled without extra charge.

Swivel Lugs

Swivel lug is used to connect two wires or cables at any angle to the same stud or bolt. It consists of two lugs with round contact surfaces, and with the wire hole (nut) of each lug offset to one side, thus permitting a swiveling motion. They can be furnished to connect any two sizes of wire or cable to the same stud or bolt. When ordering, give circular millage of wire, and state whether wire is solid or stranded.



Insulating Covers



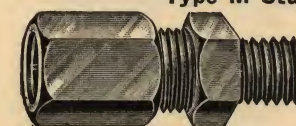
Insulating cover is furnished with Dossert Two-way Connectors in all sizes from 250000 C.M. to No. 14 inclusive. The sizes are No. 4 for all sizes of wires from No. 14 to 4, inclusive, solid and stranded, No. 1 for connector taking Nos. 1, 2 and 3 wires, No. 00 for No. 0 and 00 conductors, and the 250000 C.M. for 0000 and 250000 connectors.

Type F Stud Connectors

This stud connector consists of a nipple, which is equipped with a regular tapered nut and compression sleeve to take a certain size wire. The other end is tapped and threaded to receive the stud. In ordering give diameter and threads per inch of stud that connector is to be screwed onto, the gauge number of wire, and state whether wire is solid or stranded.



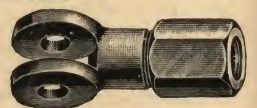
Type M Stud Connectors



This stud connector is used to connect wire or cable to flat strip or block. When ordering, give diameter and length of stud and number of threads per inch, circular millage of cable, and state whether wire is solid or stranded.

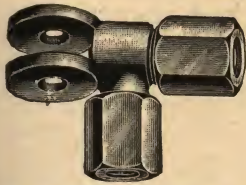
Type S Cable Anchors

Type S cable anchor is used to connect the end of cable to a strain insulator for the purpose of anchoring it, and can be used on stranded conductor only.





Dossert Solderless Connectors Type R Cable Anchors

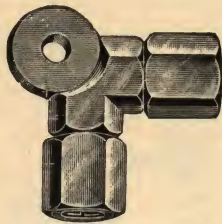


Type R cable anchor is used to anchor one cable and to take a branch wire off the anchored cable. It can be used on stranded conductor only. Consists of a Type B elbow and a clevis for the strain insulator, so arranged that the pull will be exerted on one cable only. It can be made for any two sizes

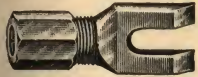
of stranded conductor. When ordering, give the circular millage of cable or gauge number of wire, and number of strands in conductor.

Type E Cable Anchors

Type E cable anchor is used to splice and anchor two cables that are at right angles to each other, and can be used on stranded conductor only. Consists of a Type B elbow and one eye for attaching the strain insulator by means of a guy rope. The eye is so arranged that both cables will be under tension when a strain is put on the guy rope. When ordering, give circular millage of cable or gauge number of wire, and number of wires in conductor.



Service Box Lugs



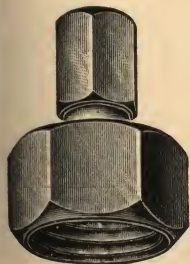
Used to connect wire to fuse. By the use of a sleeve with different size wire holes the same lug may be used for connecting all wires from a certain predetermined size down to the smallest size used. When ordering, give width of lug, diameter of binding screw, circular millage or gauge number of wire, and state whether wire is solid or stranded.

Service Box Plugs

This Service box plug is furnished with a round shank for making connection to fuse. When ordering, give diameter and length of plug or shank, circular millage or gauge number of wire, and state whether wire is solid or stranded.



Grounding Caps



The grounding cap is used for connecting ground wires to the end of a pipe. One end of the cap is threaded to take a standard gas pipe, while the other end is fitted with a compression nut and tapered sleeve, by means of which wire is connected to cap.

When ordering, give size of gas pipe and circular millage or gauge number of wire, and state whether solid or stranded. Special sizes will be made according to specifications at reasonable prices.

How to Order Dossert Connectors

Use the proper name of connector desired.

In ordering Type A connectors for concentric laid cables, give circular millage of cable, or exact diameter of cable, or exact diameter of one wire, and number of wires. Type A for solid wires, rods and tubing; give gauge number of wire, or exact diameter of rod, wire or tube, or circular millage of rod. Type A, for rope laid and flexible cable; state if cable is rope laid or flexible and give circular millage or gauge number, or exact diameter, or send sample of cable. The diameter for given size of rope laid or flexible cable is considerably larger than that of the same size concentric laid cable.

For Type B it is necessary to know the number of wires in a cable in furnishing Type B connectors, for the reason that the diameter of the core over which the inner ring fits varies according to the number of wires in the cable.

Do not use the words T joints or tees. In ordering connectors of that character, state plainly three-way or cable taps.

In ordering the smaller sizes of connectors from No. 0000 down, please be sure and state whether for stranded or solid wire.

Dossert Solderless Connectors Types A, B and C

Size of Conductor	2-Way Elbows	Cable Taps	PRICE, EACH	
			3 Ways and Y's	Lugs, Back Front, or Angle
14	\$.44	\$.66	\$.66	\$.33
12	.44	.66	.66	.33
10	.44	.66	.66	.33
8	.44	.66	.66	.33
6	.40	.60	.60	.30
4	.40	.60	.60	.30
3	.50	.75	.75	.38
2	.50	.75	.75	.38
1	.50	.74	.75	.38
0	.60	.90	.90	.45
00	.74	1.11	1.11	.56
000	.90	1.35	1.35	.68
0000	1.10	1.65	1.65	.83
250000	1.30	1.95	1.95	.98
300000	1.52	2.28	2.28	1.14
350000	1.74	2.61	2.61	1.31
400000	2.00	3.00	3.00	1.50
450000	2.30	3.45	3.45	1.73
500000	2.60	3.90	3.90	1.95
550000	2.90	4.35	4.35	2.18
600000	3.18	4.77	4.77	2.39
650000	3.44	5.16	5.16	2.58
700000	3.68	5.52	5.52	2.76
750000	3.92	5.88	5.88	2.94
800000	4.16	6.22	6.22	3.11
850000	4.40	6.60	6.60	3.30
900000	4.64	6.96	6.96	3.48
1000000	5.00	7.50	7.50	3.75
1100000	5.50	8.25	8.25	4.13
1200000	6.00	9.00	9.00	4.50
1250000	6.25	9.38	9.38	4.69
1300000	6.50	9.75	9.75	4.88
1400000	7.00	10.50	10.50	5.25
1500000	7.50	11.25	11.25	5.63
2000000	10.00	15.00	15.00	7.50

Type A connector furnished, unless otherwise specified. When ordering Type B give number of strands in cable. When made with round nipple and round nuts the connector styled Type C. Prices of Types A, B and C are the same.

Two-way Insulating Covers

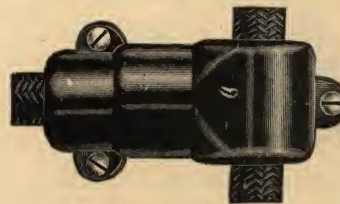
Cat. No.	For Use On	Price Each
4	All Sizes from Nos. 4 to 14 Incl.	\$.20
1	Connector Nos. 1, 2 and 3	.26
00	" " 0 and 00	.46
250000	" " 000 and 0000	.60

Cable Tap Insulating Covers

No.	1 Main and Branch	Price
00	" 00 " " "	.80
20000	" 000 " " "	1.00
250000	C. M. Main, No. 1 Branch	1.10
300000	" " " and Branch	1.30
500000	" " " No. 00 Branch	1.70
500000	" " " and Branch	2.00

Extra Sleeves

Dossert Connectors of a given size may be used on cable of a smaller size by changing the sleeves. For example: a connector for No. 4 stranded cable may be sleeved to take any smaller size down to No. 14, either solid or stranded, a different sleeve being used for each size of wire or cable.

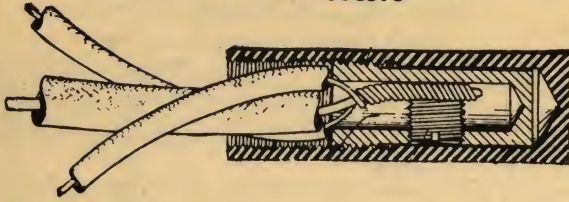


Insulated Cable Tap Cover

Size of Nut	Size of Cable	Price per 100	Size of Nut	Size of Cable	Price per 100
4	4-14	\$8.00	000	000-12	\$16.00
1	1-12	9.00	0000	0000-000	20.00
0	0-12	12.00	0000	00-0	20.00
00	00-12	14.00	0000	1-12	20.00



Marr Connectors



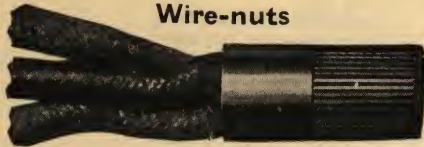
For elimination of solder, tape and waste. Made in one size only.

For stranded wire and anything up to two fourteens twist the wires together. For more than two solid wires just lay in connector. Then set down the screw and put on the fibre cap. The result is a perfect joint.

Capacity, from 2 to 8 No. 18 stranded wires or their equivalent.

Price each **\$.10**

Wire-nuts



Three No. 14 Wires Joined with a No. 14 Wire-nut

A compact insulated connector with conductive lining for use by wire-men and fixture-hangers in joining wires of the sizes most commonly used. Approved to replace the soldered splice.

Twist wires into right-hand twist and screw on a wire-nut by hand. Brass lining tightens twist and cuts thread in copper wire, providing conductivity through the lining as well as from wire to wire.

Some Joints Which Can Be Made with Wire-nuts

Number, size and style of wires which can be connected with a No. 14 wire-nut or No. 12 wire-nut.

No. 14 Wire-nut			No. 12 Wire-nut		
No. of Wires	Size	Style	No. of Wires	Size	Style
2 or 3	No. 14	Solid	2	No. 12	Solid
2	" 14	Solid and	2	" 12	Solid and
1	" 18	Stranded	1	" 18	Stranded
2	" 14	Solid and	2	" 12	Solid and
1	" 14	Stranded	1	" 14	Stranded
2	" 14	Solid and	2	" 12	Solid and
1	" 18	Solid	1	" 14	Solid
1	" 14	Solid and	1	" 12	Solid and
2	" 18	Solid*	2	" 18	Solid
1	" 14	Solid and	1	" 12	Solid and
1	" 14	Solid*	2	" 14	Solid*
1	" 12	Solid and	4	" 14	Solid
1	" 18	Solid*			

*Or stranded if the end has been dipped in solder, as is often done when wiring fixtures at the bench.

Price of Wire-nuts

Cat. No.	Carton	Std. Pkg.	Price per 100
14	100	1000	\$10.00
12	100	1000	11.00

Columbia Notorch Solderless Connectors



A perfect connector for lighting fixtures, motor leads up to 4 H. P., conduit fittings, junction boxes, and wherever splices or taps are made.

To disconnect, for repairs or changes, it is not necessary to cut wires; simply loosen screws.

Has a capacity to hold up to 2 No. 12 or 3 No. 14 or smaller wires in each end.

Packed 100 in a box.

Price per 100 **\$5.00**

Trumbull Cast Copper Nuts

For B. C. Studs, Plain



Cat. No.	Amperes	Tapped	Price Each
1465	100	3/8x16	\$.05
1466	200	1/2x13	.06
1467	300	5/8x11	.12
1468	400	3/4x16	.16
1469	600	15/16x16	.28
1470	800-1000	1 1/8x16	.60

Trumbull Cap Nuts

For B. C. Studs, Satin Finish

Cat. No.	Amperes	Tapped	Price Each
1480	30	10x24	\$.03
1481	60	1/4x20	.04
1482	100	5/16x18	.05
1483	200	3/8x16	.07
1484	300	1/2x20	.12
1485	400-600	5/8x20	.16



Trumbull Hexagonal Handle Nuts

Black Lacquered



Cat. No.	Amperes	Tapped	Diam. Inches	Price per 100
6041	.....	6-wire x32	5/16	\$.66
6042	.....	8 " x32	3/8	.70
6043	30	10 " x24	3/8	1.00
6044	60	12 " x24	7/16	2.00
6045	100	1/4x20	1/2	2.00
6046	200-300	5/16x18	5/8	3.50
6047	400-600	3/8x16	7/8	6.00

Trumbull Light Brass Washers Copper-plated, Square Edge



Cat. No.	Amperes	Outside Diam., In.	Hole	Price per 100 Plain	Polished
6030	.....	1 1/8	8-wire	\$.50	\$.80
6031	60	1 1/16	10 "	.50	.80
6032	100	1 1/16	12 "	.80	1.10
6033	200	1	1/4-in.	1.60	1.90
6034	300-600	1 1/16	3/8 "	3.20	7.50
6035	800-1200	.....	.....	18.20	23.80

Trumbull Spring Washers

Used on hinge posts.
30-60 amperes, bronze; other sizes steel, copper-plated.



Cat. No.	Amperes	Outside Diameter Inches	Size of Hole	Price, per 100 Plain	Pol.
6060	30	1 1/8	8-wire	\$.55	\$.80
6061	60	1 1/8	10 "	.55	.80
6062	100	1 3/4	12 "	.80	1.05
6063	200	1	1/4-inch	.80	1.05
6064	300	1 1/8	1/4 "	2.10	2.70
6065	400	1 1/2	5/16 "	3.70	4.25
6066	600	1 1/2	5/16 "	5.30	5.80
6067	800-1500	1 3/4	5/16 "	5.70	10.30
6068	2000-5000	2 1/2	1/2 "	18.20	23.80

Trumbull Slotted Fuse Nuts

These nuts are furnished in satin finish only, and in capacities from 30 to 600 amperes.



Cat. No.	Amperes	Tapped Outside Diam., Inches	Plain	Price, Each Pol.
1490	30C	8x32 3/8	\$.02	\$.03
1491	30A	10x24 3/8	.02	.03
1492	60	10x24 7/16	.03	.04
1493	100	12x24 1/2	.04	.05
1494	200	1/4x20 5/8	.05	.07 1/2
1495	300	5/16x18 7/8	.13	.12
1496	400-600	3/8x16 1	.15	.20



Trumbull Bus Bar Copper

In estimating cost of Bus Bar Copper, bear in mind that a bar of copper, 1 inch square, cross section, is of ample capacity to carry 1000 amps. and weighs .320 lb. per cubic inch. Use Laminated Bars for large capacities.

Prices of Bus Bar Copper will be governed by prevailing conditions of the copper market.



SIZES IN STOCK 10-FOOT LENGTHS		CARRYING CAP., AMPS. PER SQUARE INCH	
Width	Thickness	At 1000 Amps.	At 800 Amps.
3/8	.080	37	30
1/2	1/8	63	50
3/4	1/8	94	75
1	1/8	125	100
1 1/4	1/8	219	175
2	1/8	250	200
3	1/8	375	300
4	1/8	500	400

Trumbull Pilot Lights

Fixtures Only

Price, No. 6125, Single, each \$2.50
" " 6126, Double, " 10.65

Shades

Price, No. 6175 Metal, each \$4.40
" " 6176 Glass, " 2.00



Trumbull Card Holders

These holders are finished in black lacquer or copper plated.



Cat. No.	Size Card Inches	Finish	Price Each
6152	1 1/2 x 3/4	Black Lacquer	\$.08
6150	1 3/4 x 5/8	Copper Plated	.15
6151	2 1/2 x 1	" "	.20

Trumbull Bus Bar Bolts

With Nuts and Washers

Cat. No.	Diam. In.	Length In.	Price per 100	Cat. No.	Diam. In.	Length In.	Price per 100
6037	1/4	1 1/2	\$4.00	6052	3/8	3/4	\$6.10
6038	1/4	3/4	4.10	6053	3/8	1	6.20
6039	1/4	1	4.20	6054	3/8	1 1/4	6.20
6050	1/4	1 1/4	4.20	6055	3/8	1 1/2	6.30



Trumbull Bus Bar Clamps



With Iron Bolts, Nuts and Washers			With Brass Bolts Nuts and Washers		
Cat. No.	MAX. WIDTH BAR CLAMP WILL TAKE	Price Each	Cat. No.	MAX. WIDTH BAR CLAMP WILL TAKE	Price Each
6114	1 3/4 and 1 3/4	\$.32	6184	1 3/4 and 1 3/4	\$.46
6116	2 " 2	.50	6186	2 " 2	.66
6117	3 " 3	.80	6187	3 " 3	1.00
6118	4 " 4	1.30	6188	4 " 4	1.70

Trumbull Meter Bolts



No. 10 wire, black head, coppered bolt. Furnished in 2, 2 1/2, 3 and 3 1/4-inch lengths.

Price, No. 6020, each \$0.55

Trumbull Switchboard Wire Clamps



These clamps are furnished with screw and lead sleeve.

Price, No. 6111, per 100 \$3.60

Trumbull Switchboard Bolts



Furnished complete with bolt, nut and two washers.

$\frac{3}{8}$ x16 Thread			$\frac{1}{2}$ x13 Thread		
Cat. No.	Bolt Length Inches	PRICE, EACH Satin Plain	Cat. No.	Bolt Length Inches	PRICE, EACH Satin Plain
6190	$1\frac{3}{4}$, $1\frac{7}{8}$	\$.27 .24	6195	$1\frac{3}{4}$, 2	\$.31 .28
6191	$2\frac{1}{8}$, $2\frac{1}{2}$, $2\frac{3}{4}$	.28 .25	6196	$2\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{3}{4}$	.32 .29

Separate Parts

6192	Acorn Nuts—Copper Plated	\$.10 \$.08	6197		\$.12 \$.10
6193	Brass Washers—Copper Plated	\$.06 \$.05	6198		\$.07 \$.06
6194	Rubber Washers	\$.05	6199		\$.05
6200	Bolts—Square Head	1 3/4, 1 7/8	6202	1 3/4, 2	\$.07
6201	2 1/8, 2 1/2, 2 3/4	.07	6203	2 1/4, 2 1/2, 2 3/4	.08

Trumbull Uprights

Angle Iron—Without Bolts

Cat. No.	Length Inches	Price per Pair
6130	60	\$8.00
6131	66	8.60
6132	72	9.20
6133	78	9.85
6134	84	10.45
6135	90	11.20

Trumbull Wall Braces

Flat Iron—Without Bolts

Cat. No.	Length Inches	Price per Pair
6136	18	\$1.55
6137	24	1.90
6138	30	2.00
6139	36	2.60
6140	42	3.20
6141	48	3.30

Trumbull Wall Brackets

These brackets are designed to project 12 inches from the wall.

Cat. No.	Length Inches	Price per Pair	Cat. No.	Length Inches	Price per Pair
6142	24	\$5.25	6144	36	\$7.50
6143	30	5.45	6145	42	7.80

Trumbull Swinging Arm Brackets

Specify type of meter.

For One Meter

Cat. No.	Price Each
6112	\$10.00
For Two Meters	
6113	\$12.00



Trumbull Adjustable Wall Braces

Turnbuckle and Rod



Cat. No.	Diam. In.	Length In.	Price Each	Cat. No.	Diam. In.	Length In.	Price Each
6146	5/8	24	\$3.90	6148	5/8	42	\$5.20
6147	5/8	36	5.05	6149	5/8	48	5.45



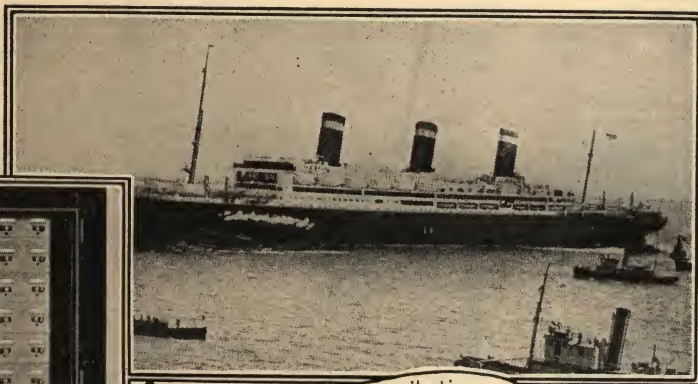
Trumbull "Circle T" Switchboards



Park Square Building, Boston, Mass.
New England's Longest Office Bldg.



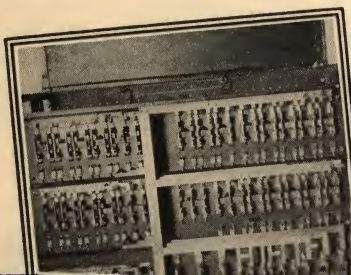
Switchboard installed in
Park Square Bldg.



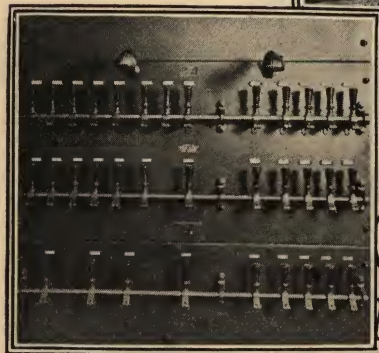
S.S. Leviathan, all distribution panels
and switchboards furnished by



Typical Safety-Type
Panel installed on
S.S. Leviathan



Deadfront Theatre
Switchboard-A-Rear View



Deadfront Theatre
Switchboard-A-Front View



First National Bank Bldg. Boston,
Mass. Main Switchboard by



Beacon Trust Bldg. Boston,
Mass. All panels and
Switch Boards by



Trumbull Unit Panel Boards with Cabinets

Instructions for Ordering

Catalogue Panel Boards with Cabinets

Please order by the correct combined descriptive catalogue number. This catalogue number includes the panel board, barriers, and cabinet complete. Such designation is sufficient information for ordering except it must be remembered that a flush type of cabinet will be furnished unless the catalogue number is followed by the word surface.

If box is already in customer's possession, order balance of material using catalogue numbers of separate units.

Special Panel Boards with Cabinets

Please check order or inquiry with the following list. To enter an order properly all of this information must be stated. A rough diagrammatic sketch is of great assistance.

Voltage (Alternating or Direct Current).
Phase (1, 2 or 3).

Finish of slate.
Finish of bus bars, switches, etc. (plain or polished).

Arrangement of mains (vertical or horizontal).
Number of bus bars (2, 3, 4 or 5).
Capacity of bus bars in amperes.
Capacity of or size of lug for feeder wire.

Bus bars have either (specify location):
Lugs in main.
Fusible mains.
Switch in mains.
Fusible switch in mains.

Total number of branch circuits.
Single or double branch

Detail of branch circuits.
Number.
Amperes (voltage if necessary).
Poles.
Fuses (plug or cartridge).
Switches.

Set of barriers with corner irons.

Cabinets.
Flush or surface.
Dimensions of wiring space or gutter.
Drilling data for box.

If drilling in box is to be done by the manufacturer it is necessary that all information for this accompany the order. This must be had before work can be commenced in the factory.

Knockouts and Drilling

Boxes, as specified on another page, are regularly furnished for panels listed in this catalogue. Special distribution panel boxes are regularly furnished without drilling or knockouts unless special information is forwarded at time of order.

If catalogue boxes are therefore desired with drilling other than standard this information should accompany order.

Drilling sheets furnished upon application.

Fuses

Fuses are not included in list prices.

Solid Neutral—Single Fusing

The 1923 code permits the use of one fuse only in a two-wire branch circuit with 125-volt, 2 or 3-wire grounded neutral systems. The use of single fusing is optional with local inspection bureaus and all Trumbull panels are therefore standard with two fuses in a two-wire branch circuit.

It is important therefore that the order specify if single fusing in the branches is desired. After the panel catalogue number add the letter N.

Trumbull Panel Boards listed in this catalogue and arranged for double fusing can easily be changed over to single fusing even if already installed.

Special panels where a saving in space and panel expense is paramount can be arranged for 3/3 wire distribution with 2-pole switches or for 3/2 wire distribution with single pole switches in branch circuits. It is not recommended as general practice as such panels cannot be changed over to double fusing if ordered in error for single fusing instead of double fusing. Estimates prepared upon receipt of specifications.

Shipment and Receipt of Panel Boards, etc.

We are not responsible for loss or breakage in transit. Special care is taken in packing, hence our liability ceases when goods are delivered to carrier, and receipted for in good condition. Please therefore examine all boxes or crates for evidence of rough handling.

All large boxes or crates have cross pieces to prevent carrier from overturning the shipment. Be sure that these cross pieces have not been removed.

Returned Panel Boards with Cabinets

Any material to be returned to the factory for credit must not be shipped back until proper return authority is received. Take up with us all questions of returned goods.

Additional Prices

Directory frames, \$2.00 each.

Heavier mains, meter loops, sub-feeders, and 250-volt branches, prices upon application.



Trumbull Unit Panel Boards with Cabinets

General Description and Specifications

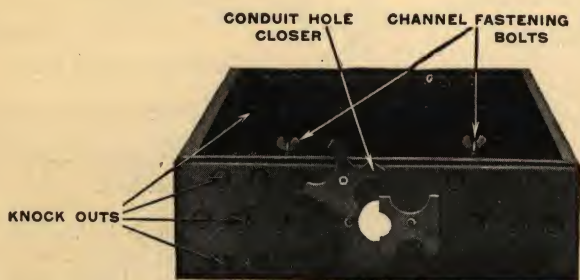
Simplification and standardization in design and listings make it possible for the Trumbull Elec. Mfg. Co. to offer the trade an exceptionally high grade line of standard Panel Boards with their enclosing steel cabinets.

1. Removable from the front.

Every circuit part including circuit switches, switch plates and fuse holders can be removed from the panel without taking off the steel front or barriers.

Any section or switch base can be removed from the panel without disturbing adjacent sections.

2. Boxes.



SIZE.—All standard panels in any regular combination of circuits and mains listed on the following pages which fit in boxes not over 61½ inches high require only 15 different stock sizes as follows:

Cat. No.	Inside Dimensions Inches		Wire Gutter
	Width	Height Depth	
50101	18x17½	5⅝	3
50102	18x20½	5⅝	3
50103	18x23½	5⅝	3
50104	18x26½	5⅝	3
50105	18x29½	5⅝	3
50106	18x32½	5⅝	3
50107	18x35½	5⅝	3
50108	18x38½	5⅝	3
50109	18x41½	5⅝	3
50110	18x44½	5⅝	3
50111	20x49½	5⅝	4
50112	20x52½	5⅝	4
50113	20x55½	5⅝	4
50114	20x58½	5⅝	4
50115	20x61½	5⅝	4

General Specifications

MATERIAL.—

Code gauge steel.

FINISH.—

Baked black enamel.

MOUNTING.—

Flush or surface, same box for both.

CHANNEL FASTENING BOLTS.—

Special bolts with wing nuts make it possible for one man to set and fasten any size of panel in a minimum of time.

KNOCKOUTS.—

½-inch knockouts in top and bottom regularly furnished, spaced on ¾-inch conduit centers.

Three rows provided in each end.

1. Row near back, for surface work.
2. Row near front, for flush work in brick walls, etc.
3. Row in middle, for flush or semi-flush particularly for hollow tile or similar hollow partitions.

CONDUIT HOLE CLOSER.—

An adjustable conduit hole closer is furnished for the main conduit. This closer can be used with ¾, 1, 1¼ or 1½-inch conduit.

IMPORTANT.—When allowable depth for panel box is limited, the above boxes can in many instances be furnished one inch shallower. This exception should, however, be clearly specified in the order.

3. Tumbler switches.

A superior snap switch with tumbler operation is designed and manufactured by the Trumbull Elec. Mfg. Co. especially for panel board use.

The switch has a 30 ampere rating and will operate and stand under this load continuously. For this reason, therefore, push or rotary snap switches are not recommended or offered.



Trumbull Unit Panel Boards with Cabinets

While the composite Panel Board illustrated below using all panel types listed does not represent a practical application, still the remarkable flexibility of design is clearly demonstrated.

Type of Mains

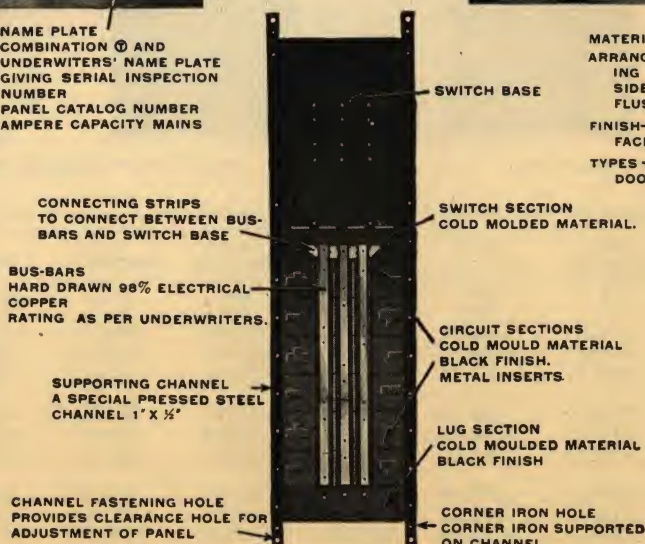
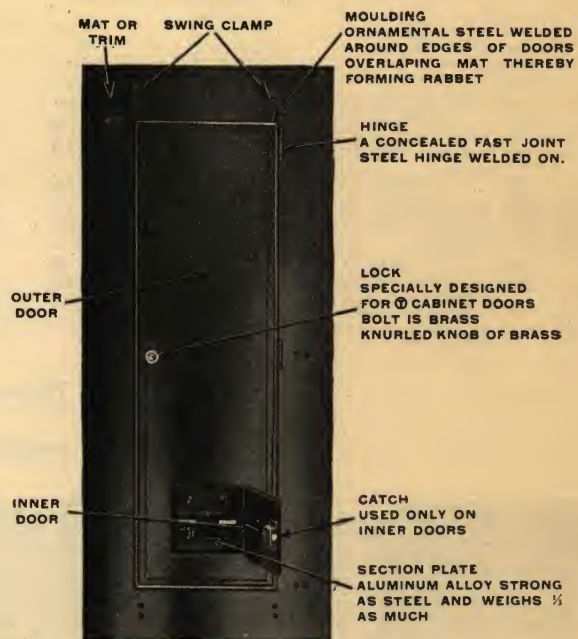
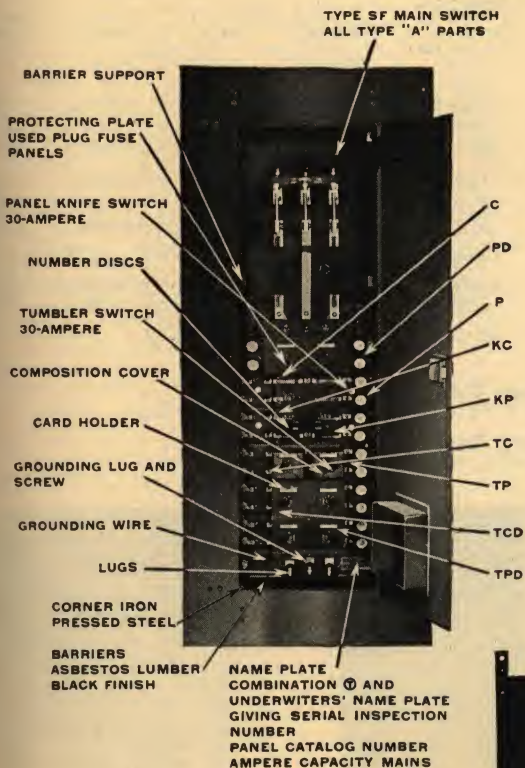
Two-wire or Three-wire, 125-volt or 125/250-volt, with or without Solid Neutral

- L—Lugs only, entrance at top or bottom.
- F—Fusible only, entrance at top or bottom.
- S—Not fused knife switch, entrance at top only.
- B—Not fused, brush contact switch, entrance at top or bottom.
- SF—Fusible knife switch, entrance at top only.
- BS—Fusible brush contact switch, entrance at top or bottom.

Type of Branches

Two-pole, 125-volt, with or without Solid Neutral

- Type TPD—T—30-ampere tumbler switches.
- Type TCD—T—30-ampere tumbler switches.
- Type TP —T—30-ampere tumbler switches.
- Type TC —T—30-ampere tumbler switches.
- Type KP —K—30-ampere knife switches.
- Type KC —K—30-ampere knife switches.
- Type PD —P—Plug fuses only.
- Type P —P—Plug fuses only.
- Type C —C—Cartridge fuses only.
- Type P—Plug fuses.
- Type C—Cartridge fuses
- Type P—Plug fuses.
- Type C—Cartridge fuses.
- Type P—Plug fuses, single door fronts.
- Type C—Cartridge fuses.
- Type D—Protecting plate over live parts, single door fronts.
- Type D—Safety type, door-within-a-door fronts.
- Type D—Safety type, door-within-a-door fronts.



FRONT MATERIAL—CODE GAGE STEEL. ARRANGED—FOR FLUSH OR SURFACE MOUNTING SURFACE MATS 1/4" LARGER ON ALL SIDES THAN INSIDE DIMENSION OF BOX FLUSH MATS 1" LARGER ON ALL SIDES FINISH—FLUSH—DULL BLACK LACQUER SURFACE—BAKED BLACK ENAMEL TYPES—SAFETY PANELS DOOR WITHIN A DOOR ALL OTHERS SINGLE DOOR ONLY

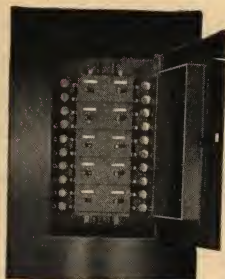


Trumbull Safety Types TPD and TCD Unit Panel Boards with Cabinets

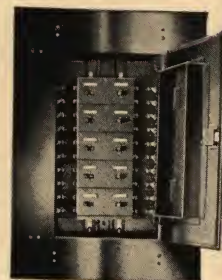
Door-within-a-door Construction

Mains, Two-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Tumbler Switches and Plug Fuses

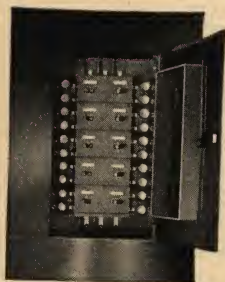


With Tumbler Switches and Cartridge Fuses

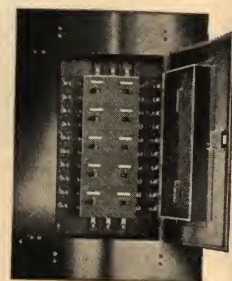
Combined Panel, Barriers and Code Gauge											
Steel Cabinet					Panel Only		Barriers	Box	Flush Front	Surface Front	
No. Cir.	Cap. Mains Amps.	Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.	Price Each	Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.					
4	60	TP204LD	TC204LD	\$48. 90	52104	52204	50701	50101	50501	50601	
6	100	TP206LD	TC206LD	55. 20	52106	52206	50702	50102	50502	50602	
8	100	TP208LD	TC208LD	62. 15	52108	52208	50703	50103	50503	50603	
10	100	TP210LD	TC210LD	69. 45	52110	52210	50704	50104	50504	50604	
12	200	TP212LD	TC212LD	76. 70	52112	52212	50705	50105	50505	50605	
14	200	TP214LD	TC214LD	84. 05	52114	52214	50706	50106	50506	50606	
16	200	TP216LD	TC216 LD	92. 25	52116	52216	50707	50107	50507	50607	
18	200	TP218LD	TC218 LD	100. 70	52118	52218	50708	50108	50508	50608	
20	200	TP220LD	TC220 LD	126. 95	52120	52220	50709	50109	50509	50609	

Mains, Three-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Tumbler Switches and Plug Fuses



With Tumbler Switches and Cartridge Fuses

Combined Panel, Barriers and Code Gauge											
Steel Cabinet											
No. Cir.	Cap. Mains Amps.	Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.	Price Each	Panel Only		Barriers	Box	Flush Front	Surface Front	
		Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuses Cat. No.		BOTH TYPES						
4	60	TP304LD	TC304LD	\$48. 90	53104	53204	50701	50101	50501	50601	
6	60	TP306LD	TC306LD	55. 20	53106	53206	50751	50102	50502	50602	
8	60	TP308LD	TC308LD	62. 15	53108	53208	50752	50103	50503	50603	
10	60	TP310LD	TC310LD	69. 45	53110	53210	50753	50104	50504	50604	
12	60	TP312LD	TC312LD	76. 70	53112	53212	50754	50105	50505	50605	
14	100	TP314LD	TC314LD	84. 05	53114	53214	50755	50106	50506	50606	
16	100	TP316LD	TC316LD	92. 25	53116	53216	50756	50107	50507	50607	
18	100	TP318LD	TC318LD	100. 70	53118	53218	50757	50108	50508	50608	
20	100	TP320LD	TC320LD	126. 95	53120	53220	50758	50109	50509	50609	

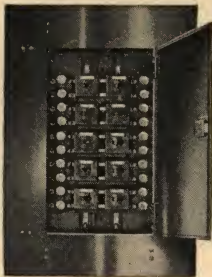


Trumbull Types TP and TC Unit Panel Boards with Cabinets

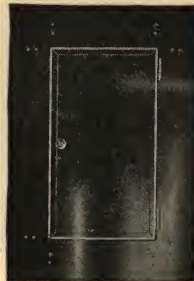
Composition Covers on Tumbler Switches

Mains, Two-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Tumbler Switches and Plug Fuses



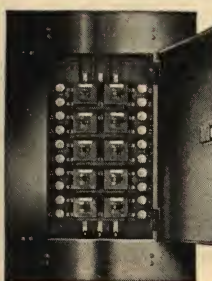
With Tumbler Switches and Cartridge Fuses

Combined Panel, Barriers and Code Gauge Steel Cabinet

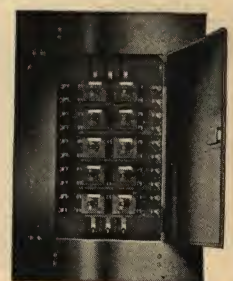
No. Cir.	Cap. Mains Amps.	Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.	Price Each	Panel Only		Barriers Cat. No.	Box BOTH TYPES		Flush Front Cat. No.	Surface Front Cat. No.
					Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.		Cat. No.	Cat. No.		
4	60	TP204L	TC204L	\$37.75	52304	52404	50701	50101	50301	50401	
6	100	TP206L	TC206L	44.65	52306	52406	50702	50102	50302	50402	
8	100	TP208L	TC208L	51.15	52308	52408	50703	50103	50303	50403	
10	100	TP210L	TC210L	57.70	52310	52410	50704	50104	50304	50404	
12	200	TP212L	TC212L	65.50	52312	52412	50705	50105	50305	50405	
14	200	TP214L	TC214L	72.25	52314	52414	50706	50106	50306	50406	
16	200	TP216L	TC216L	80.30	52316	52416	50707	50107	50307	50407	
18	200	TP218L	TC218L	88.00	52318	52418	50708	50108	50308	50408	
20	200	TP220L	TC220L	103.80	52320	52420	50709	50109	50309	50409	

Mains, Three-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Tumbler Switches and Plug Fuses



With Tumbler Switches and Cartridge Fuses

Combined Panel, Barriers and Code Gauge Steel Cabinet

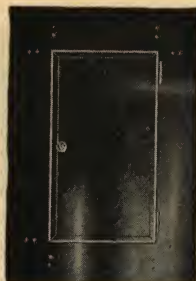
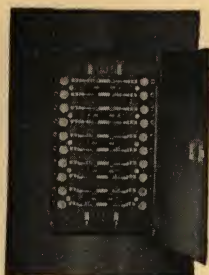
No. Cir.	Cap. Mains Amps	Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.	Price Each	Panel Only		Barriers Cat. No.	Box BOTH TYPES		Flush Front Cat. No.	Surface Front Cat. No.
					Tumbler Switch and Plug Fuse Cat. No.	Tumbler Switch and Cartridge Fuse Cat. No.		Cat. No.	Cat. No.		
4	60	TP304L	TC304L	\$37.75	53304	53404	50701	50101	50301	50401	
6	60	TP306L	TC306L	44.65	53306	53406	50751	50102	50302	50402	
8	60	TP308L	TC308L	51.15	53308	53408	50752	50103	50303	50403	
10	60	TP310L	TC310L	57.70	53310	53410	50753	50104	50304	50404	
12	60	TP312L	TC312L	65.50	53312	53412	50754	50105	50305	50405	
14	100	TP314L	TC314L	72.25	53314	53414	50755	50106	50306	50406	
16	100	TP316L	TC316L	80.30	53316	53416	50756	50107	50307	50407	
18	100	TP318L	TC318L	88.00	53318	53418	50757	50108	50308	50408	
20	100	TP320L	TC320L	103.80	53320	53420	50758	50109	50309	50409	



Trumbull Types KP and KC Unit Panel Boards with Cabinets

Mains, Two-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



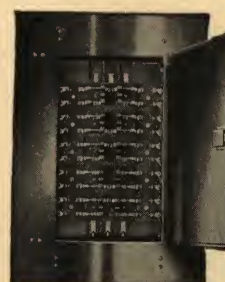
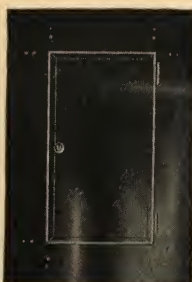
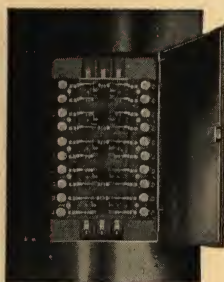
With Knife Switches and Plug Fuses

With Knife Switches and Cartridge Fuses

No. Cir.	Cap. Mains Amps.	Combined Panel, Barriers and Code Gauge Steel Cabinet		Price Each	Panel Only		Barriers	Box	Flush Front	Surface Front
		With Knife Switch and Plug Fuse Cat. No.	With Knife Switch and Cartridge Fuse Cat. No.		With Knife Switch and Plug Fuse Cat. No.	With Knife Switch and Cartridge Fuse Cat. No.				
4	60	KP204L	KC204L	\$36.55	52704	52904	50701	50101	50301	50401
6	100	KP206L	KC206L	42.65	52706	52906	50702	50102	50302	50402
8	100	KP208L	KC208L	48.55	52708	52908	50703	50103	50303	50403
10	100	KP210L	KC210L	54.75	52710	52910	50704	50104	50304	50404
12	200	KP212L	KC212L	62.00	52712	52912	50705	50105	50305	50405
14	200	KP214L	KC214L	68.20	52714	52914	50706	50106	50306	50406
16	200	KP216L	KC216L	75.70	52716	52916	50707	50107	50307	50407
18	200	KP218L	KC218L	82.85	52718	52918	50708	50108	50308	50408
20	200	KP220L	KC220L	98.15	52720	52920	50709	50109	50309	50409

Mains, Three-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Knife Switches and Plug Fuses

With Knife Switches and Cartridge Fuses

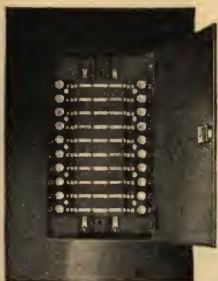
No. Cir.	Cap. Mains Amps.	Combined Panel, Barriers and Code Gauge Steel Cabinet		Price Each	Panel Only		Barriers	Box	Flush Front	Surface Front
		With Knife Switch and Plug Fuse Cat. No.	With Knife Switch and Cartridge Fuse Cat. No.		With Knife Switch and Plug Fuse Cat. No.	With Knife Switch and Cartridge Fuse Cat. No.				
4	60	KP304L	KC304L	\$36.55	53704	53904	50701	50101	50301	50401
6	60	KP306L	KC306L	42.65	53706	53906	50751	50102	50302	50402
8	60	KP308L	KC308L	48.55	53708	53908	50752	50103	50303	50403
10	60	KP310L	KC310L	54.75	53710	53910	50753	50104	50304	50404
12	60	KP312L	KC312L	62.00	53712	53912	50754	50105	50305	50405
14	100	KP314L	KC314L	68.20	53714	53914	50755	50106	50306	50406
16	100	KP316L	KC316L	75.70	53716	53916	50756	50107	50307	50407
18	100	KP318L	KC318L	82.85	53718	53918	50757	50108	50308	50408
20	100	KP320L	KC320L	98.15	53720	53920	50758	50109	50309	50409



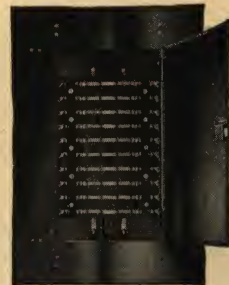
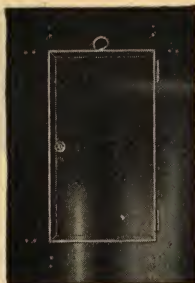
Trumbull Types P and C Unit Panel Boards with Cabinets

Mains, Two-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Plug Fuses Only



With Cartridge Fuses Only

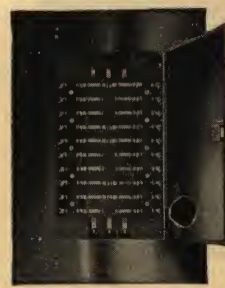
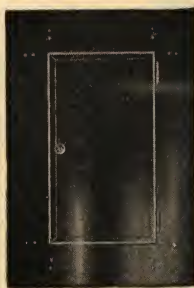
No. Cir.	Cap. Mains Amps.	Combined Panel, Barriers and Code Gauge—Steel Cabinet			Panel Only		Barriers	Box BOTH TYPES	Flush Front	Surface Front
		Plug Only Cat. No.	Cartridge Only Cat. No.	Price Each	Plug Only Cat. No.	Cartridge Only Cat. No.				
4	60	P204L	C204L	\$34.25	52604	52804	50701	50101	50301	50401
6	100	P206L	C206L	39.45	52606	52806	50702	50102	50302	50402
8	100	P208L	C208L	44.25	52608	52808	50703	50103	50303	50403
10	100	P210L	C210L	49.10	52610	52810	50704	50104	50304	50404
12	200	P212L	C212L	55.20	52612	52812	50705	50105	50305	50405
14	200	P214L	C214L	60.25	52614	52814	50706	50106	50306	50406
16	200	P216L	C216L	66.60	52616	52816	50707	50107	50307	50407
18	200	P218L	C218L	72.60	52618	52818	50708	50108	50308	50408
20	200	P220L	C220L	86.75	52620	52820	50709	50109	50309	50409

Mains, Three-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Plug Fuses Only



With Cartridge Fuses Only

No. Cir.	Cap. Mains Amps.	Combined Panel, Barriers and Code Gauge—Steel Cabinet			Panel Only		Barriers	Box BOTH TYPES	Flush Front	Surface Front
		Plug Only Cat. No.	Cartridge Only Cat. No.	Price Each	Plug Only Cat. No.	Cartridge Only Cat. No.				
4	60	P304L	C304L	\$34.25	53604	53804	50701	50101	50301	50401
6	60	P306L	C306L	39.45	53606	53806	50751	50102	50302	50402
8	60	P308L	C308L	44.25	53608	53808	50752	50103	50303	50403
10	60	P310L	C310L	49.10	53610	53810	50753	50104	50304	50404
12	60	P312L	C312L	55.20	53612	53812	50754	50105	50305	50405
14	100	P314L	C314L	60.25	53614	53814	50755	50106	50306	50406
16	100	P316L	C316L	66.60	53616	53816	50756	50107	50307	50407
18	100	P318L	C318L	72.60	53618	53818	50757	50108	50308	50408
20	100	P320L	C320L	86.75	53620	53820	50758	50109	50309	50409

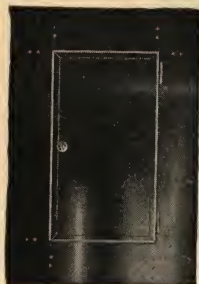


Trumbull Type PD Unit Panel Boards with Cabinets

Protecting Plate Over Live Parts

Mains, Two-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



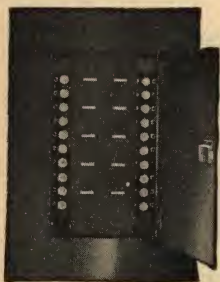
With Plug Fuses Only

Combined Panel, Barriers and Code Gauge Steel Cabinet

No. Cir.	Cap. Mains	Plug Only Cat. No.	Price Each	Panel Only Cat. No.	Barriers Cat. No.	Box Cat. No.	Flush Front Cat. No.	Surface Front Cat. No.
4	60	P204LD	\$35.25	53504	50701	50101	50301	50401
6	100	P206LD	40.95	53506	50702	50102	50302	50402
8	100	P208LD	46.25	53508	50703	50103	50303	50403
10	100	P210LD	51.60	53510	50704	50104	50304	50404
12	200	P212LD	58.20	53512	50705	50105	50305	50405
14	200	P214LD	63.75	53514	50706	50106	50306	50406
16	200	P216LD	70.60	53516	50707	50107	50307	50407
18	200	P218LD	77.10	53518	50708	50108	50308	50408
20	200	P220LD	91.75	53520	50709	50109	50309	50409

Mains, Three-wire, Lugs Only

Branches, Two-pole, 125-volt, 30-ampere



With Plug Fuses Only

Combined Panel, Barriers and Code Gauge Steel Cabinet

No. Cir.	Cap. Mains	Plug Only Cat. No.	Price Each	Panel Only Cat. No.	Barriers Cat. No.	Box Cat. No.	Flush Front Cat. No.	Surface Front Cat. No.
4	60	P304LD	\$35.25	52404	50701	50101	50301	50401
6	60	P306LD	40.95	52406	50751	50102	50302	50402
8	60	P308LD	46.25	52408	50752	50103	50303	50403
10	60	P310LD	51.60	52410	50753	50104	50304	50404
12	60	P312LD	58.20	52412	50754	50105	50305	50405
14	100	P314LD	63.75	52414	50755	50106	50306	50406
16	100	P316LD	70.60	52416	50756	50107	50307	50407
18	100	P318LD	77.10	52418	50757	50108	50308	50408
20	100	P320LD	91.75	52420	50758	50109	50309	50409

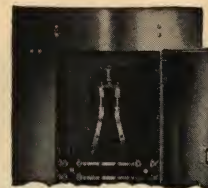
Trumbull All Types Unit Panel Boards with Cabinets

Switch and Fusible Mains

Additions to Prices and Cat. Nos. of Lugs in Mains

Mains, Two-wire

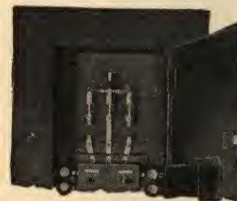
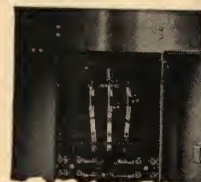
Branches, Two-pole, 125-volt, 30-ampere



Cap. Mains Amps.	FUSIBLE ONLY Cat. No.	Price *Box Each	NOT FUSED KNIFE SWITCH Cat. No.	Price *Box Each	FUSIBLE KNIFE SWITCH Cat. No.	Price *Box Each
30	51201	2 \$6.00	51205	3 \$9.00	51209	3 \$9.00
60	51202	2 7.50	51206	3 11.00	51210	4 11.00
100	51203	3 10.50	51207	4 16.00	51211	5 18.00
200	51204	4 25.00	51208	5 35.00	51212	6 40.00

Mains, Three-wire

Branches, Two-pole, 125-volt, 30-ampere



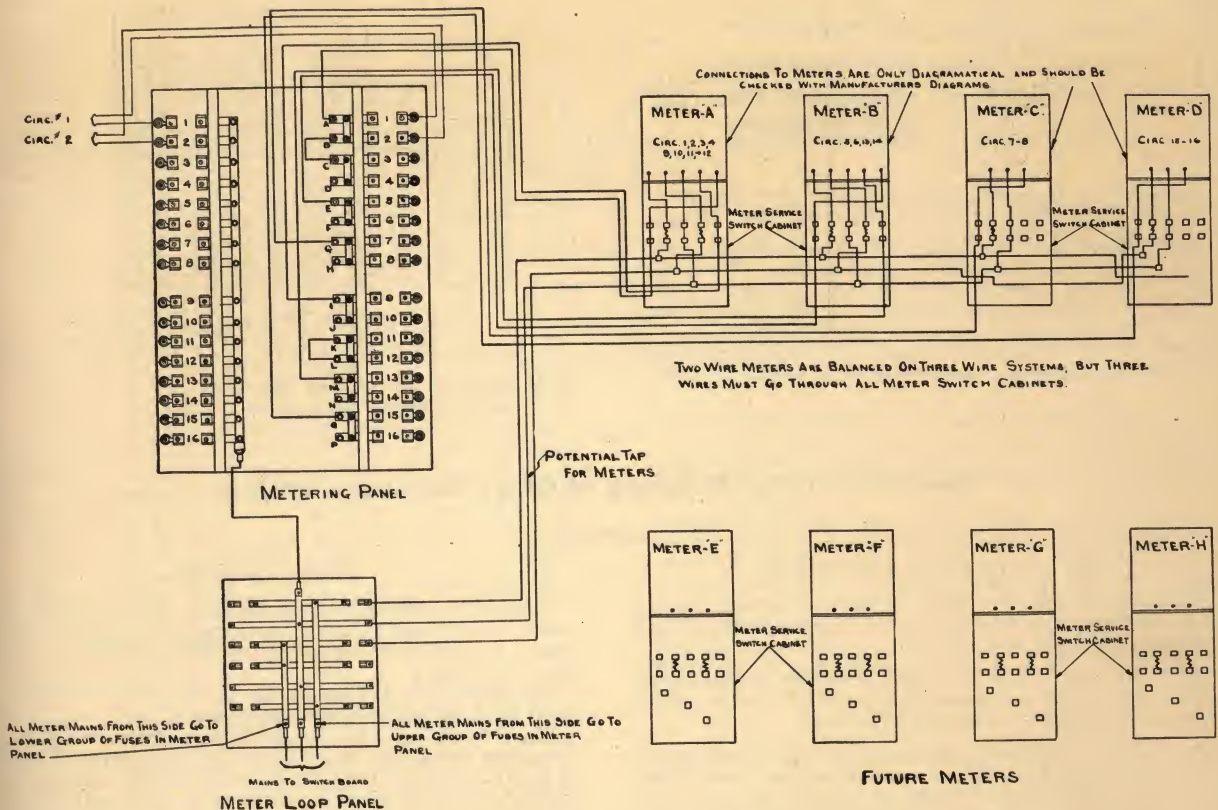
Cap. Mains Amps.	FUSIBLE ONLY Cat. No.	Price *Box Each	NOT FUSED KNIFE SWITCH Cat. No.	Price *Box Each	FUSIBLE KNIFE SWITCH Cat. No.	Price *Box Each
30	51301	2 \$6.50	51305	3 \$11.00	51309	3 \$11.00
60	51302	2 9.00	51306	3 13.00	51310	4 15.00
100	51303	3 20.00	51307	4 30.00	51311	5 35.00
200	51304	4 30.00	51308	5 45.00	51312	6 50.00

*Box numbers in this column to be added to Box Only Cat. No. of lugs in Mains Only sizes. This gives correct Cat. No. of Box Only.

SAFETY MAIN SWITCHES.—Knife switches are recommended in mains such as listed above when a quick means for disconnecting any panel is desired. The main switch even in safety panels is not primarily an operating switch but a disconnecting switch accessible to qualified persons only. Where the conditions of installation require a main switch of the safety type such panels can be furnished at an increase in cost over the regular knife switch mains.



Trumbull Metering Panels



Specifications for Metering of Office Building Lighting

The riser from the switchboard terminates in the meter loop cabinet below the metering cabinet.

The meters are grouped together on a wooden frame-work and spaced to meet the requirements of the local lighting company. Regardless of the number of meters to be installed under the original contract, the frame-work should be designed to take care of the maximum number of meters which might be used for the rooms supplied by the metering panel. In this way a uniform installation is secured for present as well as future requirements.

The Meter Loop Cabinet is made flush with the finished plaster.

The Metering Cabinet is made semi-surface in order that the conduits running from the cabinet to the nearest standardized Meter Service Switch can be run exposed.

The Meter Service Switches are connected together by Standardized Wiring Troughs.

The public lighting cabinet is entirely separate from the tenant lighting system, the public lights being metered by a single meter on the switchboard.

All the material mentioned is supplied under the electrical contract (with the possible exception of the Meter Service Switches) and all wiring left ready for connection to the meters which are supplied by the lighting company.

The Meter Loop Cabinet and the Metering panel should meet the following conditions:

1. That any room supplied with current from a metering panel may be put on the same meter with any other offices supplied by the same panel, or that any or all rooms may be connected together under one meter.

2. That the above be accomplished without materially changing the construction of the panels.

3. That the fuses be accessible to any party being responsible for their renewal, without giving access to the wiring in the gutters.

4. That the wiring in the gutters of the Metering Cabinet be accessible to the proper party or parties without making it necessary to remove the trim.

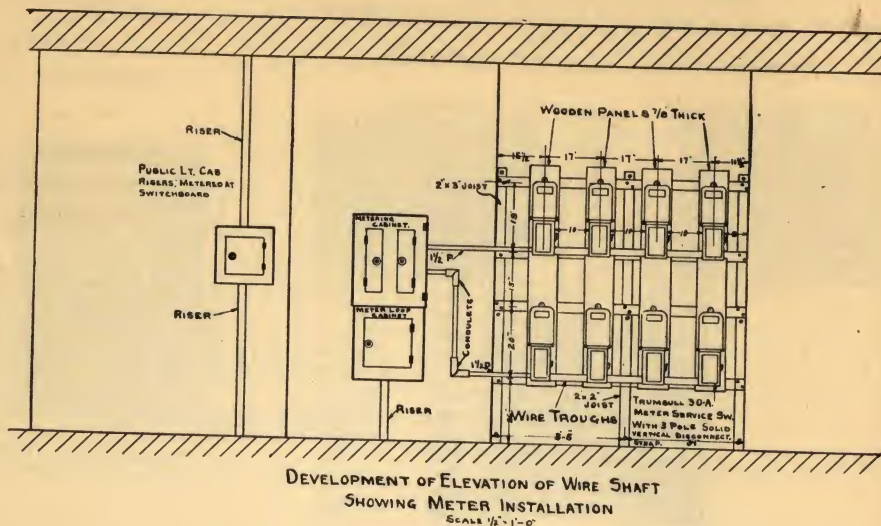
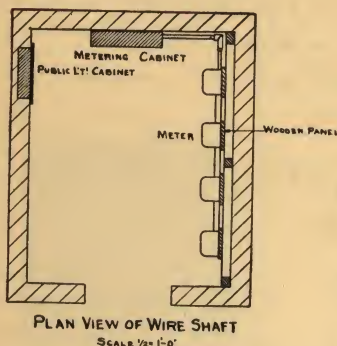
5. That the above conditions be made with a form of construction in keeping with the best practice of the day, and further fulfill all requirements of the local lighting company as well as those of the National Electric Code.

6. That the general appearance of the completed work be in keeping with that of the rest of the electrical installation.

Meter Service switches should be of the standardized type.



Trumbull Metering Panels



Specifications for Metering of Office Building Lighting

Continued

Meter Loop Panel and Cabinet

This panel is introduced as a means of eliminating all splices and taps in wire gutters and to facilitate installation and repairs on the system.

The mains from the switchboard terminate in this panel. The sub-mains to the groups of meters are taken as fused tap circuits to the meter service switch cabinets.

On solid neutral systems the size of the two outside mains depends upon the load on the meters but the neutral need only be No. 12 wire to be used as a potential tap. The neutral wire current is carried by the direct feed to the metering panel. The neutral must be solid throughout the system, except at tap circuits in metering panel.

Meter Panel and Cabinet

The details of this cabinet are clearly shown on the drawing so that only the special construction features need be mentioned here.

As it is sometimes necessary to frequently change connections to the meters, the wire gutters should be accessible without removing the cabinet front, since it sometimes happens that the front is not replaced by careless workmen. To overcome this difficulty, the front is hinged and also provided with a lock to prevent tampering with the meter connections by irresponsible parties.

There are separate doors to the fused compartments, as it is sometimes found necessary to have the fuses changed by parties not responsible for the electrical work.

The absolute flexibility of connections is secured without unsightly appearance.

The segregation of like polarities cuts down the size of the panel, and increases safety.

Meter Service Switch

The standardized switch shown on the drawing or one similar to it is now required by many large central station companies and is a standard manufacturer's product.

Meters

Meters are furnished either by the central stations or the owners, and due to the variation in types, only a diagrammatic detail is used on this drawing.

Wiring Diagram

In order to draw a wiring diagram, a specific installation is used. In this case, a building is selected in which each office requires two circuits, one for general illumination and one for base receptacles.

As shown in the diagram, the copper bus bar is cut into sections dividing the circuits in groups of two.

To connect any two rooms on the same meter it is only necessary to make a loop with wire as shown between terminals B and C. Knurled nuts are provided so that lugs can be installed should the wire used as a loop become large enough to require it. This would happen only in case that more than twelve circuits were grouped on one meter.

In this diagram circuits Nos. 1, 2, 3, 4, 9, 10, 11, and 12 are metered on meter "A". This indicates that tenant paying for current metered by "A" occupies four rooms. In order to balance the system properly, circuits 1 to 4 inclusive, are connected to one side of the three wire system, and circuits 9 to 12 inclusive, are connected to the other side.

Following the diagram it will be seen that the meter sub-mains are carried through the fuses to the meter, from the meter to the switch, and from the switch to the metering panel. It will be noted that the individual circuits are fused on the load side of the meter. The potential tap is carried from the neutral terminal in the service switch cabinet to the meter. As will be seen the neutral current from the lamps passes through the bus bar in the Metering panel direct to Meter Loop panel. In the drawing the load side of the meter mains is connected to the end terminals in the metering panel. Should however, more than twelve (12) circuits be connected to one meter, a lug should be furnished in place of the knurled nut. Corresponding terminals on each side of the panel form a tap circuit as shown in the diagram.

Meter "B" records the energy used in the offices supplied by circuits 5, 6, 13 and 14. Here again, the circuits are balanced on each side of the system.

Meter "C" measures current for one room only and as the service company's requirements call for a two-wire meter with a load of this capacity, the neutral meter sub-main must be changed so that it passes through the middle terminal of the service switch cabinet. By this arrangement a 110-volt meter circuit is secured. Here however, one wire is carried back from the meter to the metering panel through the switch. Care should be taken that only one side of the system be connected to each group of fuses, so that there will be no danger of short circuits due to having opposite polarities on adjacent terminals. In case of a two-wire meter only, one side of the two pole switch and one of the fuses in the meter service switch cabinet are used, one fuse being made solid.



Box Dimensions

Steel Service and Cutout Boxes

Minimum Dimensions of Boxes Required For Knife Switches

Single Throw, Fused Hinge End

No. Poles	Volts	30 Amp. W. H. D.	60 Amp. W. H. D.	100 Amp. W. H. D.	200 Amp. W. H. D.	400 Amp. W. H. D.
1	250	6 10 4	6 15 4	6 18 5	6 24 6	8 30 8
2	250	6 10 4	8 15 4	8 18 5	8 24 6	10 30 8
3	250	8 10 4	10 15 4	10 18 5	12 24 6	15 30 8
4	250	10 10 4	12 15 4	15 18 5	15 24 6	20 30 8
1	440-500AC	6 15 4	6 18 5	6 24 5	6 24 6	10 36 8
2	440-500AC	8 15 4	8 18 5	8 24 5	8 24 6	10 36 8
3	440-500AC	12 15 4	15 18 5	10 24 5	12 24 6	15 36 8
4	440-500AC	18 15 4	20 18 5	15 24 5	15 24 6	20 36 8
1	600	6 15 4	6 18 5	6 24 5	6 27 6	10 36 8
2	600	8 15 4	8 18 5	10 24 5	10 27 6	15 36 8
3	600	12 15 4	15 18 5	15 24 5	15 27 6	20 36 8
4	600	18 15 4	20 18 5	20 24 5	20 27 6	24 36 8

Single Throw, Fused Handle End

1	250	6 15 4	8 18 4	6 24 5	6 27 6	10 36 8
2	250	6 15 4	8 18 4	8 24 5	8 27 6	10 36 8
3	250	8 15 4	10 18 4	10 24 5	12 27 6	15 36 8
4	250	10 15 4	12 18 4	15 24 5	15 27 6	20 36 8
1	440-500AC	6 24 5	6 24 5	6 24 5	6 27 6	10 36 8
2	440-500AC	8 24 5	8 24 5	8 24 5	8 27 6	10 36 8
3	440-500AC	15 24 5	15 24 5	10 24 5	12 30 6	15 36 8
4	440-500AC	18 24 5	18 24 5	15 24 5	15 30 6	20 36 8
1	600	6 20 5	6 24 5	6 27 6	6 33 6	10 42 8
2	600	8 20 5	8 24 5	8 27 6	10 33 6	15 42 8
3	600	15 20 5	15 24 5	10 27 6	15 33 6	20 42 8
4	600	18 20 5	20 24 5	15 27 6	20 33 6	24 42 8

Double Throw, Fused Both Ends

1	250	6 15 4	8 18 4	6 27 5	6 33 6	10 48 8
2	250	8 15 4	8 18 4	8 27 5	8 33 6	12 48 8
3	250	8 15 4	10 18 4	10 27 5	12 33 6	15 48 8
4	250	10 15 4	12 18 4	15 27 5	16 33 6	20 48 8
1	440-500AC	6 24 5	6 27 5	6 33 6	8 40 6	10 48 8
2	440-500AC	10 24 5	8 27 5	8 33 6	10 40 6	12 48 8
3	440-500AC	15 24 5	15 27 5	12 33 6	15 40 6	15 48 8
4	440-500AC	20 24 5	20 27 5	16 33 6	20 40 6	20 48 8
1	600	6 24 5	6 27 5	8 40 6	8 48 6	10 48 8
2	600	10 24 5	8 27 5	10 40 6	10 48 6	15 48 8
3	600	15 24 5	15 27 5	15 40 6	15 48 6	20 48 8
4	600	20 24 5	20 27 5	20 40 6	20 48 6	24 48 8

Single Throw, Fused Hinge End

No. Poles	Volts	600 Amp. W. H. D.	800 Amp. W. H. D.	1000 Amp. W. H. D.	1200 Amp. W. H. D.
1	250	10 36 8	12 36 12	12 42 12	12 42 12
2	250	10 36 8	15 36 12	15 42 12	15 42 12
3	250	15 36 8	24 36 12	24 42 12	24 42 12
4	250	20 36 8	30 36 12	36 42 12	36 42 12
1	440-500AC	10 36 8	12 42 12	12 48 12	12 48 12
2	440-500AC	10 36 8	15 42 12	15 48 12	15 48 12
3	440-500AC	15 36 8	24 42 12	24 48 12	24 48 12
4	440-500AC	20 36 8	30 42 12	36 48 12	36 48 12
1	600	10 42 8	12 48 12	12 48 12	12 48 12
2	600	15 42 8	20 48 12	20 48 12	20 48 12
3	600	20 42 8	28 48 12	28 48 12	28 48 12
4	600	24 42 8	36 48 12	36 48 12	36 48 12



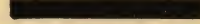
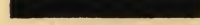
Single Throw, Fused Handle End

1	250	10 36 8	12 42 12	12 48 12	12 48 12
2	250	10 36 8	15 42 12	15 48 12	15 48 12
3	250	15 36 8	24 42 12	24 48 12	24 48 12
4	250	20 36 8	30 42 12	30 48 12	30 48 12
1	440-500AC	10 42 8	12 48 12	12 48 12	12 48 12
2	440-500AC	10 42 8	15 48 12	15 48 12	15 48 12
3	440-500AC	15 42 8	24 48 12	24 48 12	24 48 12
4	440-500AC	20 42 8	30 48 12	36 48 12	36 48 12
1	600	10 48 8	12 48 12	12 54 12	12 54 12
2	600	15 48 8	20 48 12	20 54 12	20 54 12
3	600	20 48 8	28 48 12	28 54 12	28 54 12
4	600	24 48 8	36 48 12	36 54 12	36 54 12

Columbia Steel Cabinets

National Electrical Code Extract Regarding Cutout Boxes and Cabinets

Thickness of Metal

	No. 16 U. S. Gauge— $\frac{1}{16}$
	No. 14 U. S. Gauge— $\frac{5}{64}$
	No. 12 U. S. Gauge— $\frac{7}{64}$
	No. 10 U. S. Gauge— $\frac{9}{64}$

Cutout Boxes and Cabinets with Hinged Doors and Screw Covers Types A, AX, AG and Screw Cover Pull Boxes

No. 16 gauge is used where no surface area exceeds 360 square inches and if no single dimension is over 24 inches.

No. 14 gauge is used where no surface area exceeds 1000 square inches and if no single dimension is over 40 inches.

No. 12 gauge is used where no surface area exceeds 1500 square inches and if no single dimension is over 60 inches.

No. 10 gauge is used for any cabinet larger than noted above.

Cutout Boxes and Cabinets with Removable Doors and Trims

No. 16 gauge box, No. 14 gauge trim, is required where no surface area exceeds 360 square inches and no single dimension is over 24 inches.

No. 14 gauge box, No. 12 gauge trim, is required where no surface area exceeds 1000 square inches and no single dimension is over 40 inches.

No. 12 gauge box, No. 12 gauge trim, is required where no surface area exceeds 1500 square inches and no single dimension is over 60 inches.

No. 10 gauge box, No. 10 gauge trim, is required for cabinets larger than noted above.

Hardware

The code requires that all cutout boxes and cabinets be provided with a catch. On the smaller Type A cabinets, a friction catch is permitted; on the smaller flush cabinets a turn catch is satisfactory, on the larger flush cabinets, a cupboard catch is best.

A lock may be used if desired but if furnished, must be in addition to the regular catch; a combined lock and catch may also be used in place of separate locks and catches.

Where single doors are over 48 inches high, they must have a three-point catch operated by a single knob or handle holding the doors closed at the center, top and bottom; where the door exceeds 24 inches in width, double doors must be provided, regardless of its height operated by a three-point catch.

Weatherproof Cabinets

For wet location and outdoor service, cabinets and cutout boxes must be so designed and constructed that a beating rain or moisture running down conduits or wall will not allow water to enter. They must be provided with external fastenings for mounting. Hinges must be of cast metal or of sheet bronze. Threaded holes for conduits must be reinforced to provide metal at least $\frac{1}{4}$ inch in thickness. Bushed holes for open wiring must not be located either in the top or back except when special hood fittings are provided, and when located in the sides must be formed to provide a downward direction for wires leaving the cabinet. Devices made of sheet metal lighter than No. 10 U. S. gauge must be galvanized by the hot dip process after forming and assembly. Cabinets and cutout boxes made of sheets No. 10 U. S. gauge in thickness or heavier need not be galvanized after forming and assembly, provided galvanized sheets are used and all cut edges are painted. Other materials must be treated to give protection from corrosion.

Gutters—All Types

Cutout boxes or cabinets containing cutouts or panelboards require separate wiring gutters where more than four circuits are connected in the cabinet, unless the wires enter the cabinet directly opposite the terminals.



Columbia Type A Surface Cabinets

For Cut-outs, Service Switches and Panel Boards



CONDUIT DRILLING.—Cabinets are regularly furnished with knockouts for $\frac{1}{2}$ -inch conduit spaced evenly on all sides. Specify if boxes are wanted without knockouts. For special conduit drilling, a small extra charge is made.

Knockouts other than $\frac{1}{2}$ -inch can be supplied if required.

SIZES AND THICKNESS OF STEEL.—Cabinets are listed in standard sizes and gauges (thickness). Cabinets of any size and thickness of steel up to $\frac{1}{8}$ -inch thick can be made to order.

GALVANIZED CABINETS.—Type A Cabinets in any size can be furnished in galvanized steel. Add 50 per cent to prices.

WEATHERPROOF CABINETS.—These cabinets can be made with slant tops, rubber gaskets and solid brass catches, for exposure to the weather. Black japan or galvanized.

HOLES FOR CUT-OUT, SWITCHES, ETC.—Furnished at cost of one cent per hole per box. For tapped holes, add two cents per box.

BOXES WITHOUT COVERS.—If boxes are required without covers, deduct 20 per cent from prices. A flange will be supplied on front edges for mounting a wood trim or other cover if specified on order.

SCREW COVERS.—All cabinets will be furnished with screw covers at the same price, if so specified.

The boxes listed below are made of sheet steel of the required thickness to conform with Board of Underwriters' requirements, and bear the Underwriters' labels.

Width Inches	Height Inches	PRICE, EACH DEPTH, INCHES				
		3	4	5	6	8
4 1/2	5	\$1.86	\$1.17	.....	.....	.....
4 1/2	9	1.00	1.32	\$1.38	.....	.....
6	6	.94	1.08	1.45	\$1.88	\$2.05
6	9	1.15	1.48	1.74	2.26	2.54
6	10	1.32	1.58	1.83	2.41	2.70
6	11	1.41	1.70	2.00	2.26	2.98
6	12	1.50	1.68	2.10	2.66	3.06
6	16	1.80	2.04	2.35	3.00	3.78
6	8	1.05	1.32	1.65	2.13	2.36
8	8	1.28	1.53	1.89	2.30	2.76
8	10	1.47	1.72	2.10	2.55	3.16
8	12	1.72	2.01	2.31	2.90	3.55
8	15	2.01	2.31	2.67	3.30	4.10
8	18	2.31	2.67	3.03	3.60	4.75
9	9	1.48	1.89	2.07	2.55	3.20
9	12	1.83	2.13	2.45	3.00	3.80
9	15	2.10	2.45	2.91	3.50	4.45
9	16	2.28	2.52	3.00	3.67	4.60
9	18	2.43	2.91	3.26	3.95	4.95
9	20	2.70	3.17	3.52	4.25	5.35
9	24	3.06	3.55	4.02	4.80	6.17
9	28	5.45	6.15	6.78	7.55	9.35
9	32	6.25	6.80	7.58	8.40	10.45
9	36	6.78	7.60	8.36	9.20	11.55
10	10	1.78	2.01	2.32	2.95	3.60
10	12	1.98	2.25	2.58	3.25	4.05
10	15	2.34	2.61	2.74	3.70	4.65
10	18	2.67	2.80	3.25	4.20	5.30
10	20	3.16	3.58	4.10	4.65	5.66
10	24	3.70	4.15	4.75	5.30	6.55
10	28	5.98	6.57	6.87	8.07	9.94
10	32	6.60	7.35	8.07	8.97	10.69
10	36	7.35	8.12	8.82	9.96	12.20
12	12	2.45	2.78	3.28	3.72	4.40
12	16	3.05	3.06	3.95	4.45	5.37
12	18	3.32	3.30	4.30	4.80	5.85
12	20	3.56	3.85	4.45	5.15	6.30
12	24	4.24	4.50	4.50	5.88	7.30
12	28	6.75	7.44	8.19	8.97	11.05
12	32	7.53	8.34	9.05	9.93	12.30
12	36	8.40	9.24	10.05	10.95	13.60
12	40	9.24	10.07	10.98	11.94	14.45
16	12	3.05	3.06	3.95	4.45	5.38
16	15	3.55	3.60	4.55	5.10	6.20
16	18	4.15	4.15	5.20	5.75	7.05

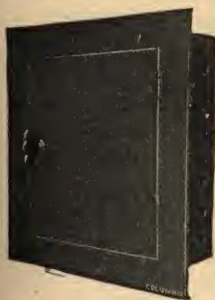
Columbia Type A Surface Cabinets

For Cut-outs, Service Switches and Panel Boards

Width Inches	Height Inches	PRICE, EACH DEPTH, INCHES				
		3	4	5	6	8
16	20	\$4.53	\$4.50	\$5.60	\$6.10	\$7.65
15	24	5.00	5.00	6.15	6.80	8.40
16	28	8.40	9.18	9.93	10.80	13.24
16	32	9.45	10.20	11.07	12.00	14.73
16	36	10.50	11.37	12.50	13.17	15.45
16	40	10.58	12.48	13.38	14.40	17.80
18	18	4.60	5.10	5.65	6.25	7.65
18	20	5.00	5.50	6.10	6.70	8.25
18	24	8.08	8.88	9.54	10.40	12.62
18	28	9.24	10.08	10.80	11.70	14.30
18	32	10.38	11.25	12.05	13.00	15.90
18	36	11.58	12.45	13.32	14.31	17.50
18	40	12.75	13.65	14.58	15.60	19.20
21	21	8.19	9.00	9.66	10.50	12.80
21	24	9.15	9.96	10.71	11.64	13.78
21	28	10.50	11.40	12.18	13.08	16.00
21	32	11.85	12.75	13.62	14.73	17.76
21	36	13.14	13.10	15.00	16.05	19.55
21	40	14.49	15.45	16.35	17.52	21.38
24	24	10.32	11.16	11.91	12.84	15.55
24	28	11.76	12.69	13.50	14.46	17.55
24	32	13.26	14.22	15.15	16.11	19.46
24	36	14.76	15.72	16.68	17.76	21.44
24	40	16.20	17.22	18.30	19.05	23.50
24	42	28.30	29.89	31.54	33.10	41.45
24	48	31.60	34.15	36.13	37.81	43.68
30	24	16.54	17.44	18.31	19.30	22.50
30	28	18.28	19.30	20.32	21.28	24.96
30	32	19.72	21.10	22.15	23.26	27.20
30	36	34.20	36.10	38.80	39.80	43.80
30	40	37.90	40.10	42.00	43.20	48.60
30	44	41.70	44.10	46.30	47.40	53.50
30	48	45.50	48.10	50.40	51.50	58.40
30	54	59.90	63.15	66.40	69.70	81.10
30	60	66.60	70.20	73.80	77.50	90.00
30	66	71.10	74.80	78.75	82.60	96.00
30	72	79.90	84.20	88.60	92.80	108.00
36	36	41.70	44.00	46.20	47.30	53.50
36	42	56.20	59.30	62.30	65.40	76.00
36	48	64.00	67.50	70.90	74.40	86.50
36	54	71.80	75.60	79.60	83.40	97.10
36	60	79.90	84.30	88.60	92.90	108.00
36	66	87.85	92.70	97.35	102.10	118.75
36	72	95.80	101.10	106.10	111.30	129.50
36	78	103.80	109.50	115.10	120.80	140.50
36	84	111.70	117.80	123.80	129.90	151.00
42	42	65.50	69.00	72.60	76.20	88.50
42	48	74.70	78.80	82.90	86.90	101.00
42	54	84.00	88.55	93.00	97.55	113.50
42	60	93.30	98.30	103.20	108.20	126.00
42	66	102.40	108.00	113.50	119.00	138.50
42	72	111.70	117.80	123.80	129.90	151.00
42	78	121.30	127.90	134.50	141.00	164.00
42	84	130.50	137.50	144.80	151.80	176.50
42	90	139.80	147.30	154.90	162.50	189.00
42	96	149.20	157.40	165.50	173.50	201.80
48	48	85.50	90.10	94.60	98.40	115.40
48	54	95.80	101.80	106.10	111.30	129.40
48	60	106.50	112.30	118.10	123.80	144.00
48	66	117.20	123.50	129.90	136.20	158.30
48	72	128.00	135.00	141.80	148.80	173.00
48	78	138.30	145.90	153.20	160.80	187.00
48	84	149.30	157.40	165.40	173.60	201.80
48	90	159.50	168.10	176.70	186.30	215.50
48	96	170.20	179.40	188.50	197.80	230.00
54	54	107.90	113.80	119.70	125.40	146.00
54	60	119.80	126.40	132.80	139.20	162.00
54	66	131.70	138.80	145.90	153.00	178.00
54	72	143.50	151.20	159.00	166.80	194.00
54	78	155.40	163.80	172.40	180.70	210.00
54	84	166.80	175.70	184.50	193.50	225.00
54	96	188.80	198.90	209.00	219.50	255.00
60	60	131.40	138.50	145.60	152.80	177.50
60	66	144.30	152.10	159.80	167.80	195.00
60	72	159.20	167.80	176.30	185.00	215.00
60	78	170.80	180.00	189.20	198.50	231.20
60	84	185.00	195.00	205.00	215.00	250.00
60	90	198.00	208.50	219.50	230.00	258.80



Columbia Type P Flush Cabinets For Cut-outs, Service Switches and Panel Boards



These cabinets are provided with removable steel trim and door. Plain type without ornamental beads; body is formed from one piece of steel with corners folded in and securely welded.

Finished in black baked japan. Regularly equipped with knob and turn catch.

Cabinets having surface area of over 360 square inches are furnished with vault handle.

Cabinets can be supplied with any style hinges, catch or lock.

Holes for cut-outs, switches, etc., add one cent per hole per box net. For tapped holes, two cents per hole net. Minimum 50 cents net per order.

CONDUIT DRILLING.—Cabinets are regularly furnished with knockouts for 1/2-inch conduit. For special conduit drilling an extra charge will be made. Knockouts other than 1/2-inch are furnished at a net charge of 50 cents for each variation from 1/2-inch. This covers any number of knockouts in any number of boxes.

Panel Board Cabinets

This style cabinet is especially adapted for panelboards. Give size of panel, or specify maker's name and manufacturer's number. Sizes not listed at proportionate prices. This style of cabinet can also be furnished for surface work if so ordered.

The boxes listed below are made of sheet steel of the required thickness to conform with Board of Underwriters' requirements and bear the Underwriters' labels.

All boxes are hinged on height unless otherwise specified. When ordering, specify hinged side first.

Width Inches	Height Inches	PRICE, EACH DEPTH, INCHES			
		3	4	5	8
4 1/2	5	\$3.56	\$3.90	\$4.50	....
4 1/2	9	3.69	4.00	4.50	\$5.25
6	6	3.66	3.95	4.25	4.60
6	9	3.88	4.21	4.60	5.00
6	10	3.97	4.30	4.75	5.20
6	11	4.09	4.45	4.86	5.30
6	12	4.21	4.54	5.00	5.15
6	16	4.69	5.08	5.47	6.00
6	8	3.81	4.11	4.47	4.85
8	8	4.11	4.41	4.90	5.25
8	10	4.38	4.74	5.15	5.55
8	12	4.55	4.94	5.35	5.75
8	15	4.97	5.27	5.70	6.15
8	18	5.39	5.54	6.20	7.00
9	9	4.33	4.69	5.10	5.50
9	12	4.75	5.11	5.50	5.90
9	15	5.20	5.62	6.10	6.55
9	16	5.38	5.80	6.20	7.00
9	18	5.68	6.20	7.15	7.75
9	20	6.10	6.70	7.35	8.35
9	24	7.25	8.00	8.80	9.10
9	28	10.30	11.16	12.28	13.45
9	32	11.38	12.51	13.72	14.98
9	36	11.46	13.86	15.16	16.51
10	10	4.61	4.97	5.40	5.80
10	12	4.94	5.63	6.10	6.55
10	15	5.42	5.84	6.50	7.10
10	18	6.00	6.55	7.20	8.30
10	20	6.75	7.50	8.05	8.60
10	24	7.55	8.25	8.60	9.40
10	28	10.92	12.02	13.12	14.35
10	32	13.32	13.50	14.68	16.42
10	36	13.72	15.00	16.20	18.48
12	12	5.00	5.75	6.50	7.25
12	16	6.35	7.05	7.85	8.50
12	18	7.40	7.85	8.30	9.25
12	20	7.65	8.45	8.75	9.25
12	24	8.60	8.90	9.63	10.58
12	28	12.50	13.58	14.75	15.98
12	32	14.00	15.15	16.42	17.72
12	36	15.48	16.72	18.18	19.50
12	40	16.95	18.36	19.75	21.24
16	12	6.50	7.30	7.60	8.25
16	15	7.50	8.15	8.50	9.05
16	18	8.30	8.65	9.78	10.16
16	20	8.60	9.36	10.08	10.92

Columbia Type P Flush Cabinets For Cut-outs, Service Switches and Panel Boards

Width Inches	Height Inches	PRICE, EACH DEPTH, INCHES			
		4	5	6	8
15	24	\$10.25	\$11.10	\$12.06	\$13.62
16	28	16.65	17.90	19.27	20.54
16	32	18.70	20.06	21.52	22.95
16	36	20.75	22.22	23.75	25.38
16	40	22.84	24.38	26.00	27.38
18	18	9.40	10.12	11.06	12.42
18	20	10.22	10.92	11.93	13.42
18	24	16.10	17.32	18.68	19.77
18	28	18.36	19.57	20.92	22.38
18	32	20.60	21.84	23.16	24.88
18	36	22.88	24.10	25.42	27.44
18	40	25.16	26.32	27.65	30.00
21	21	13.05	13.86	14.85	16.70
21	24	18.22	19.42	20.88	22.42
21	28	20.78	22.15	23.50	25.02
21	32	23.38	24.84	26.10	27.60
21	36	25.95	27.55	28.70	30.24
21	40	28.44	30.25	31.75	32.85
24	24	20.25	21.95	23.05	24.40
24	28	23.05	24.38	25.95	27.60
24	32	25.80	26.80	28.80	30.78
24	36	28.62	29.25	31.68	34.95
24	40	31.40	31.68	34.55	37.20
24	42	38.70	41.18	43.65	52.65
24	48	45.00	47.92	50.62	61.20
30	24	24.05	25.92	27.44	29.25
30	28	27.80	29.35	30.95	32.95
30	32	31.15	32.75	34.45	36.65
30	36	42.40	45.40	47.05	50.40
30	40	46.20	49.30	51.35	53.90
30	44	50.90	53.40	55.60	57.40
30	48	54.20	57.70	59.80	62.80
30	54	72.90	76.10	81.00	93.90
30	60	81.00	84.65	90.00	104.40
30	66	86.50	90.40	96.10	112.80
30	72	97.20	102.80	108.00	125.60
36	36	48.50	52.10	54.70	58.50
36	42	68.40	71.40	76.10	88.20
36	48	77.80	81.30	86.50	100.40
36	54	87.40	91.30	97.00	112.50
36	60	97.20	101.50	108.00	125.40
36	66	111.10	116.00	123.40	130.80
36	72	116.40	121.80	129.60	150.20
36	78	126.40	132.00	140.40	162.90
36	84	135.80	141.80	151.00	175.20
42	42	79.00	82.65	88.00	102.40
42	48	90.90	94.80	100.50	116.00
42	54	102.00	106.40	113.50	131.80
42	60	113.50	118.50	126.00	146.10
42	66	124.50	130.10	138.40	160.80
42	72	135.80	141.90	151.00	175.10
42	78	147.50	154.20	164.00	190.20
42	84	157.50	164.50	175.00	203.00
42	90	168.50	175.80	187.00	206.80
42	96	179.10	187.20	199.00	231.00
48	48	104.00	108.50	115.60	134.10
48	54	115.40	120.80	128.60	149.20
48	60	129.80	134.10	142.40	164.80
48	66	141.80	148.90	159.00	182.00
48	72	152.50	159.20	169.00	195.20
48	78	166.50	173.80	185.00	204.80
48	84	179.10	187.20	199.00	231.00
48	90	193.30	201.80	214.80	249.00
48	96	206.10	215.00	229.00	265.80
54	54	131.80	136.10	144.40	166.80
54	60	142.80	149.90	160.00	183.00
54	66	158.50	165.50	176.00	204.00
54	72	173.50	180.80	192.00	211.80
54	78	188.10	196.20	208.00	240.00
54	84	202.10	211.00	225.00	261.80
54	96	230.50	241.80	257.00	298.00
60	60	158.50	165.20	175.00	201.20
60	66	175.10	183.20	195.00	227.00
60	72	193.30	201.80	214.80	249.00
60	78	207.10	217.00	231.00	267.80
60	84	224.50	235.80	251.00	292.00
60	90	240.80	250.80	267.00	310.00

All boxes are hinged on height unless otherwise specified. When ordering, specify hinged side first.



Columbia Guttered Type Cabinets

For Flush and Surface Work

For 2 or 3-wire Main Plug Cut-outs

Double-pole, Double-branch, with Side Gutter Frames



Cat. No.	Size Cabinet Inches	No. of Circuits	PRICE, EACH		
			Type PSG	Type PFG	Type CG
901	10 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	2	\$10.80	\$10.80	\$12.80
902	13 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	4	11.60	11.60	13.60
903	16 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	6	12.40	12.40	14.40
904	19 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	8	13.20	13.20	15.60
905	22 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	10	14.00	14.00	16.80
906	25 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	12	16.40	16.40	22.40
907	28 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	14	17.60	17.60	23.40
908	31 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	16	18.80	18.80	24.40
909	35 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	18	20.00	20.00	25.60
910	38 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	20	21.20	21.20	26.80
924	41 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	22	22.40	22.40	28.00
925	44 $\frac{1}{2}$ x13 $\frac{1}{2}$ x3	24	23.60	23.60	29.20

Prices do not include cut-outs. Other sizes can be made at proportionate prices. Give arrangement of cut-out and switches, size of gutter frame and cabinet. These cabinets are also made for any type of cut-out required.

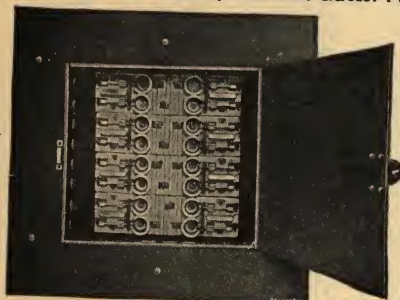
When ordering, give number and specify type of cabinet wanted.

Columbia Guttered Type Cabinets

For Flush and Surface Work

For 2 or 3-wire Main Panel Switch Cut-outs

Double-pole, Double-branch, with Side Gutter Frames



Cat. No.	Size Cabinet Inches	No. of Circuit	PRICE, EACH		
			Type PSG	Type PFG	Type CG
911	10 $\frac{1}{2}$ x21x4	2	\$13.60	\$13.60	\$16.80
912	13 $\frac{1}{2}$ x21x4	4	15.20	15.20	18.40
913	16 $\frac{1}{2}$ x21x4	6	16.80	16.80	19.60
914	19 $\frac{1}{2}$ x21x4	8	20.00	20.00	26.40
915	22 $\frac{1}{2}$ x21x4	10	22.00	22.00	28.80
916	25 $\frac{1}{2}$ x21x4	12	24.00	24.00	31.20
917	28 $\frac{1}{2}$ x21x4	14	26.00	26.00	33.60
918	31 $\frac{1}{2}$ x21x4	16	28.00	28.00	36.00
919	35 $\frac{1}{2}$ x21x4	18	30.00	30.00	38.40
920	38 $\frac{1}{2}$ x21x4	20	32.00	32.00	40.80
921	41 $\frac{1}{2}$ x21x4	22	34.00	34.00	43.20
922	44 $\frac{1}{2}$ x21x4	24	36.00	36.00	45.60

Prices do not include cut-outs. Other sizes can be made at proportionate prices. Give arrangement of cut-out and switches, size of gutter frame and cabinet. These cabinets are also made for any type of cut-out required.

When ordering, give number and specify type of cabinet wanted.

Columbia Guttered Type Cabinets

For Flush and Surface Work

For Perkins Panel Cut-outs, Plug Fuses, 10 and 20 Amps. 125 Volts

With dead fronts and push button switches, Bryant Nos. 2699, 2700, 2724, and 2725; with back wiring space.



FOR 2-WIRE MAIN CUT-OUTS
Nos. 2699 AND 2724

FOR 3-WIRE MAIN CUT-OUTS
Nos. 2700 AND 2725

Cat. No.	Size Cabinet In.	No. of Cir.	PRICE, EACH		
			Type PSG	Type PFG	Type CG
741	10 $\frac{1}{2}$ x17x4	2	\$12.00	\$12.00	\$15.20
742	13 $\frac{1}{2}$ x17x4	4	12.80	12.80	16.40
743	16 $\frac{1}{2}$ x17x4	6	13.60	13.60	17.20
744	19 $\frac{1}{2}$ x17x4	8	14.40	14.40	18.00
745	22 $\frac{1}{2}$ x17x4	10	18.00	18.00	24.80
746	25 $\frac{1}{2}$ x17x4	12	19.60	19.60	26.40
747	28 $\frac{1}{2}$ x17x4	14	22.00	22.00	28.40
748	31 $\frac{1}{2}$ x17x4	16	22.80	22.80	31.20
749	35 $\frac{1}{2}$ x17x4	18	24.40	24.40	32.80
750	38 $\frac{1}{2}$ x17x4	20	26.00	26.00	35.00
751	41 $\frac{1}{2}$ x17x4	22	27.60	27.60	37.00
752	44 $\frac{1}{2}$ x17x4	24	29.20	29.20	39.00

Prices do not include cut-outs. Other sizes can be made at proportionate prices. Give arrangement of cut-outs and switches, size of gutter frame and cabinet. These cabinets are also made in the above styles for any type of cut-out required. When ordering, specify type and give Cat. No. of cabinet wanted.

Columbia Guttered Type Cabinets

For Flush and Surface Work

For Perkins Panel Cut-outs, N. E. C. Fused, 10 and 20 Amps., 250 Volts

With dead fronts and push button switches, Bryant Nos. 2685, 2686, 2727, and 2728; with back wiring space.



FOR 2-WIRE MAIN CUT-OUTS
Nos. 2685 AND 2727

FOR 3-WIRE MAIN CUT-OUTS
Nos. 2686 AND 2728

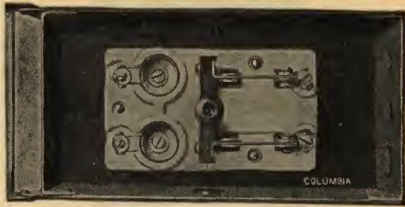
Cat. No.	Size Cabinet In.	No. of Cir.	PRICE, EACH		
			Type PSG	Type PFG	Type CG
841	10 $\frac{1}{2}$ x20x4	2	\$13.60	\$13.60	\$16.80
842	13 $\frac{1}{2}$ x20x4	4	15.20	15.20	18.40
843	16 $\frac{1}{2}$ x20x4	6	16.80	16.80	19.60
844	19 $\frac{1}{2}$ x20x4	8	20.00	20.00	26.40
845	22 $\frac{1}{2}$ x20x4	10	22.00	22.00	28.80
846	25 $\frac{1}{2}$ x20x4	12	24.00	24.00	31.20
847	28 $\frac{1}{2}$ x20x4	14	26.00	26.00	33.60
848	31 $\frac{1}{2}$ x20x4	16	28.00	28.00	36.00
849	35 $\frac{1}{2}$ x20x4	18	30.00	30.00	38.40
850	38 $\frac{1}{2}$ x20x4	20	32.00	32.00	40.80
851	41 $\frac{1}{2}$ x20x4	22	34.00	34.00	43.20
852	44 $\frac{1}{2}$ x20x4	24	36.00	36.00	45.60

Prices do not include cut-outs. Other sizes can be made at proportionate prices. Give arrangement of cut-outs and switches, size of gutter frame and cabinet. These cabinets are also made in the above styles for any type of cut-out required.

When ordering, specify type of cabinet and Cat. No.

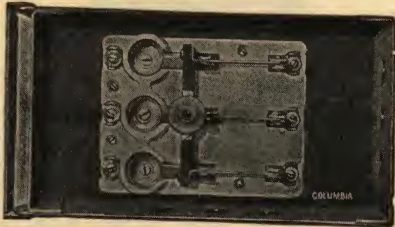


Columbia Metal Cabinet Sizes For 2-pole Plug Fused Entrance Switches



The size of cabinet which is adapted for a two-pole, 125-volt plug fused entrance switch is $4\frac{1}{2}$ inches wide, 9 inches long and $3\frac{1}{2}$ inches deep.

For 3-pole Plug Fused Entrance Switches



The size of cabinet which is adapted for a three-pole, 125-250-volt plug fused entrance switch is 6 inches wide, 11 inches long, and $3\frac{1}{2}$ inches deep.



Columbia Metal Cabinet Sizes

For 2-pole Main Line Plug Cut-outs

The size cabinet adapted for a two-pole main line plug cut-out is $4\frac{1}{2}$ inches long, 5 inches wide and 3 inches deep.

Columbia Metal Cabinet Sizes

For 3-pole Main Line Plug Cut-outs

The size cabinet adapted for a three-pole main line plug cut-out is 6 inches long, 6 inches wide, and 3 inches deep.



Columbia Metal Cabinet Sizes For Double-pole Single Branch Plug Cut-outs

No. of Circuits	Length	Width	Depth
1	6	6	3
2	9	6	3
3	12	6	3
4	16	6	3
*5	18	6	3
*6	21	6	3
*7	24	6	3
*8	27	6	3
*9	30	6	3
*10	33	6	3

*Approved only if the wires leave the box directly opposite the terminals.

For Double-pole Double Branch Plug Cut-outs

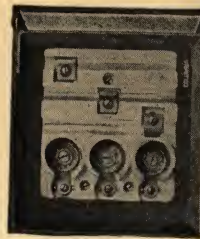
No. of Circuits	Size Box Required	No. of Circuits	Size Box Required
2	6x9x3	*12	21x9x3
4	9x9x3	*14	24x9x3
*6	12x9x3	*16	28x9x3
*8	15x9x3	*18	32x9x3
*10	18x9x3		

*Approved only if the wires leave the box directly opposite the terminals.



Columbia Metal Cabinet Sizes

For Triple-pole Single Branch Plug Cut-outs



No. of Circuits	Length	Width	Depth
1	9	9	3
2	12	9	3
3	16	9	3
4	20	9	3
*5	24	9	3
*6	32	9	3
*7	36	9	3
*8	40	9	3
*9	44	9	3
*10	48	9	3

*Approved only if the wires leave the box directly opposite the terminals.

Columbia Metal Cabinet Sizes

For Double-branch Cut-outs with Main Switches 2 or 3-wire Mains

No. of Circuits	Length	Width	Depth
2	12	9	4
4	15	9	4
*6	18	9	4
*8	21	9	4
*10	24	9	4
*12	28	9	4
*14	32	9	4
*16	36	9	4
*18	40	9	4

*Approved only if the wires leave the box directly opposite the terminals.



Columbia Metal Cabinet Sizes For Bryant Dead Front Panel Switch Cut-outs



No. of Circuits	Size Box Required	No. of Circuits	Size Box Required
2	6x16x4	*10	18x16x4
4	9x16x4	*12	21x16x4
*6	12x16x4	*14	24x16x4
*8	15x16x4	*16	28x16x4
		18	28x16x14

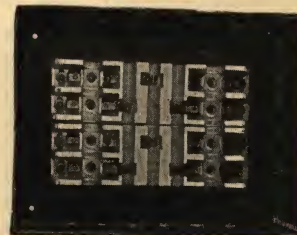
*Approved if wires leave box opposite terminals.

Columbia Metal Cabinet Sizes

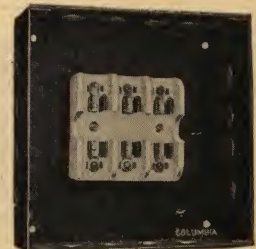
For Double-pole N. E. C. Double Branch Cut-outs

For Main Line N. E. C. Fuse Blocks

2 or 3-wire Mains



3-pole



Cap. Amps.	No. of Circuits	Size Box Required	Cap. Amps.	Size Box Required
0-30	2	6x16x4	0-30	6x 8x3
0-30	4	9x16x4	31-60	8x12x4
0-30	*6	12x16x4	61-100	12x16x4
31-60	2	9x18x4	.....	.....
31-60	4	12x18x4	.....	.....
31-60	*6	16x18x4	.....	.....

*Approved only if wires leave the box directly opposite terminals.



R. & B. Type A Steel Cabinets



These cabinets are built of No. 12 steel, strongly riveted to $\frac{1}{8}$ -inch angle, and present a substantial and attractive appearance.

Regularly furnished 4 inches deep. For greater depth than 5 inches, add 5 per cent per inch.

For double doors, add 10 per cent.

Ht. In.	PRICE, EACH WIDTH, INCHES						
	8	10	12	14	16	18	20
12	\$8.50	\$8.75	\$9.00	\$9.40	\$9.80	\$10.30	\$10.80
14	8.75	9.00	9.25	9.70	10.10	10.60	11.20
16	9.00	9.30	9.60	10.10	10.50	11.10	11.70
18	9.40	9.70	10.00	10.50	11.00	11.60	12.20
20	9.80	10.10	10.50	11.00	11.55	12.15	12.75
22	10.20	10.60	11.00	11.50	12.00	12.60	13.20
24	10.70	11.10	11.50	12.00	12.60	13.20	13.85
26	11.20	11.70	12.10	12.60	13.20	13.85	14.50
28	11.80	12.25	12.70	13.25	13.85	14.45	15.15
30	12.40	12.90	13.40	13.95	14.55	15.15	15.80
32	13.10	13.60	14.10	14.65	15.25	15.85	16.55
34	13.80	14.35	14.90	15.50	16.10	16.80	17.50
36	14.50	15.10	15.70	16.30	16.90	17.60	18.30
38	15.40	16.00	16.60	17.20	17.80	18.50	19.20
40	16.30	16.90	17.50	18.10	18.75	19.45	20.15
42	17.20	17.80	18.40	19.00	19.60	20.30	21.00
44	18.20	18.80	19.40	20.00	20.60	21.30	22.00
46	19.20	19.80	20.40	21.05	21.60	22.40	23.10
48	20.25	20.85	21.50	22.15	22.80	23.50	24.20
52	22.50	23.15	23.80	24.45	25.10	25.80	26.50
56	24.80	25.45	26.10	26.75	27.40	28.10	28.80
60	27.10	27.75	28.40	29.05	29.70	30.40	31.10

Ht. In.	PRICE, EACH WIDTH, INCHES						
	24	26	28	30	32	34	36
12	\$12.00	\$12.60	\$13.20	\$13.90	\$14.60	\$15.30	\$16.00
14	12.40	13.10	13.80	14.50	15.20	15.90	16.60
16	13.00	13.70	14.40	15.10	15.80	16.50	17.25
18	13.50	14.20	14.90	15.60	16.40	17.20	18.00
20	14.00	14.70	15.40	16.20	17.00	17.85	18.75
22	14.50	15.20	16.00	16.80	17.70	18.60	19.50
24	15.25	15.95	16.75	17.55	18.45	19.35	20.25
26	15.90	16.60	17.40	18.30	19.20	20.10	21.05
28	16.55	17.35	18.20	19.15	20.05	20.95	21.85
30	17.20	18.00	18.90	19.80	20.70	21.65	22.65
32	17.95	18.75	19.65	20.55	21.45	22.45	23.55
34	19.00	19.80	20.60	21.50	22.40	23.40	24.45
36	19.85	20.65	21.55	22.45	23.35	24.35	25.35
38	20.70	21.55	22.45	23.35	24.35	25.35	26.35
40	21.65	22.50	23.40	24.35	25.30	26.30	27.35
42	22.65	23.50	24.40	25.30	26.35	27.35	28.35
44	23.65	24.50	25.40	26.35	27.35	28.40	29.45
46	24.75	25.65	26.60	27.55	28.55	29.55	30.55
48	25.80	26.70	27.65	28.60	29.60	30.60	31.65
52	28.10	29.00	29.95	31.00	32.00	33.00	34.05
56	30.40	31.30	32.35	33.40	34.40	35.40	36.55
60	32.80	33.70	34.75	35.85	36.95	38.05	39.15

R. & B. Type B Steel Cabinets



Ht. In.	PRICE, EACH WIDTH, INCHES						
	8	10	12	14	16	18	20
12	\$6.00	\$6.15	\$6.40	\$6.70	\$7.00	\$7.50	\$8.00
14	6.25	6.50	6.75	7.05	7.30	7.85	8.40
16	6.50	6.75	7.05	7.35	7.60	8.20	8.80
18	6.80	7.10	7.40	7.70	8.00	8.60	9.25
20	7.10	7.45	7.85	8.20	8.60	9.20	9.85
22	7.40	7.85	8.30	8.75	9.20	9.80	10.45
24	7.80	8.30	8.80	9.30	9.80	10.40	11.05
26	8.20	8.75	9.30	9.85	10.40	11.00	11.65
28	8.70	9.25	9.85	10.45	11.00	11.60	12.25
30	9.20	9.80	10.40	11.00	11.60	12.20	12.85
32	9.70	10.30	10.95	11.60	12.20	12.80	13.45
34	10.20	10.85	11.50	12.15	12.80	13.45	14.10
36	10.70	11.35	12.05	12.75	13.40	14.05	14.70
38	11.20	11.90	12.60	13.30	14.00	14.65	15.35
40	11.70	12.40	13.15	13.90	14.60	15.30	16.05
42	12.30	13.05	13.80	14.55	15.30	16.05	16.80
44	12.90	13.65	14.45	15.25	16.00	16.75	17.50
46	13.50	14.30	15.10	15.90	16.70	17.45	18.20
48	13.90	14.75	15.65	16.55	17.40	18.20	19.05

R. & B. Cast Iron Junction and Pull Boxes



When ordering drilling, send sketch showing exact location of holes and specify whether for conduit or bushings. All holes will be drilled to slip conduit and as near back of box as bushing will allow, unless otherwise specified.

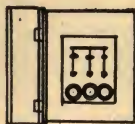
Cat. No.	Approx. Inside Dimen., In.	PRICE, EACH		Cover
		Complete	Box	
3	3 $\frac{3}{4}$ x 3 $\frac{1}{2}$ x3	\$1.00	\$.80	\$.30
5	4 $\frac{1}{2}$ x 4 $\frac{1}{2}$ x2 $\frac{1}{2}$	1.00	.80	.30
7	5 $\frac{3}{8}$ x 4 $\frac{3}{8}$ x2 $\frac{1}{2}$	1.40	1.20	.35
9	4 $\frac{1}{4}$ x 4 $\frac{1}{4}$ x4 $\frac{1}{2}$	1.45	1.30	.30
10	5 $\frac{1}{2}$ x 5 $\frac{1}{2}$ x2 $\frac{7}{8}$	1.50	1.25	.40
11	11 x 4 x2	1.90	1.30	.70
12	6 $\frac{1}{2}$ x 4 $\frac{7}{8}$ x3	1.90	1.65	.45
15	7 $\frac{1}{2}$ x 4 $\frac{1}{2}$ x3 $\frac{1}{2}$	2.00	1.70	.50
17	6 x 6 x4	2.25	1.90	.50
20	9 $\frac{1}{4}$ x 5 $\frac{1}{2}$ x3 $\frac{3}{4}$	2.75	2.25	.75
22	10 x 6 x6	4.25	3.50	1.00
25	7 x 6 $\frac{7}{8}$ x3 $\frac{1}{2}$	2.75	2.25	.75
28	8 x 5 $\frac{1}{2}$ x3	2.40	1.95	.70
29	12 x 5 x5	3.80	3.00	1.00
30	7 $\frac{7}{8}$ x 5 $\frac{3}{4}$ x4	2.80	2.35	.70
31	8 x 8 x4	3.35	2.60	.90
32	10 x 7 $\frac{1}{2}$ x4	3.80	3.00	1.00
33	12 x 8 x4	4.25	3.15	1.25
35	11 $\frac{1}{2}$ x11 $\frac{1}{2}$ x4	5.00	3.60	1.80
40	14 x 9 x4	5.00	3.60	1.80
41	12 x 8 x5	4.75	3.70	1.25
42	14 x 9 x6	6.75	5.10	1.80
45	18 x10 x4 $\frac{1}{2}$	7.00	5.25	2.25
46	18 x14 x4 $\frac{1}{2}$	9.50	7.00	2.75
47	12 x12 x6	7.50	6.00	1.90
50	24 x12 x6	12.50	9.50	3.75



Box Sizes Required for Wiring Steel Cabinets



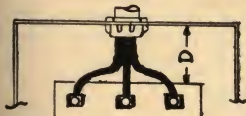
2-pole



3-pole

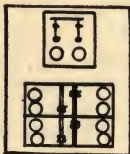
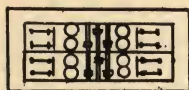
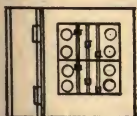
Two-pole fused entrance switch takes box $4\frac{1}{2} \times 9 \times 3\frac{1}{2}$.
Three-pole fused entrance switch takes box $6 \times 10 \times 4$.

Underwriters' Required Clearance



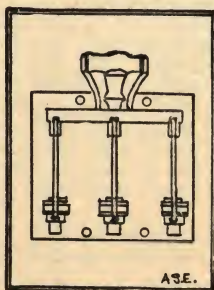
Amps.	Conduit Size	Size Wire	D Space Inches
100	1½	1	4½
200	2	3-0	5½
400	3	500,000 cm.	7
600	4	1,000,000 cm.	9

Box Sizes Required for Cutouts



Circuits	Box Size			
	Plug Cutouts 3 to 2-wire Double Branch	Panel Cutouts 3 to 2-wire Double Branch	Plug Cutouts 2 to 2-wire Double Branch with Main Switch	Panel Cutouts 3 to 2-wire Double Branch with Main Switch
2	4½ x 8x3	6x15x4	8x12x4	12x15x4
4	8 x 8x3	8x15x4	8x15x4	15x15x4
6	8 x 12x3	12x15x4	8x27x4	15x18x4
8	8 x 15x3	15x15x4	8x30x4	15x21x4
10	8 x 18x3	15x18x4	8x33x4	15x24x4
12	8 x 21x3	15x21x4	8x40x5	15x37x4
14	8 x 24x3	15x24x4	8x43x5	15x40x4
16	8 x 27x3	15x27x4	8x46x5	15x43x4
18	8 x 30x3	15x30x4	8x49x5	15x46x4

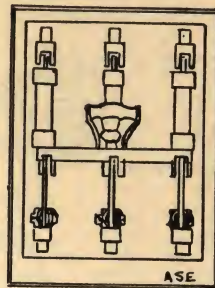
Box Sizes Required for Types A and C 250-volt D. C. or 500-volt A. C. Knife Switches



A.S.E.

Box Sizes Required for Types A and C 250-volt D. C. or 500-volt A. C. Knife Switches

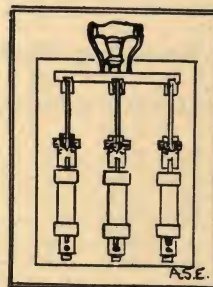
Front Connections—Single Throw—Fused Top



A.S.E.

Capacity Amperes	DOUBLE-POLE			THREE-POLE			FOUR-POLE		
	W.	H.	D.	W.	H.	D.	W.	H.	D.
30	6	15	4	8	15	4	12	15	4
60	8	18	4	10	18	4	15	18	5
100	8	24	5	12	24	5	15	24	5
200	10	27	6	12	27	6	18	27	6
400	12	36	8	15	36	8	21	36	8

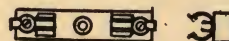
Single Throw—High Jaw—Fused Bottom



A.S.E.

Capacity Amperes	DOUBLE-POLE			THREE-POLE			FOUR-POLE		
	W.	H.	D.	W.	H.	D.	W.	H.	D.
30	6	12	4	8	12	4	12	12	4
60	8	15	4	10	15	4	15	15	4
100	8	21	5	12	21	5	15	21	5
200	10	24	6	12	24	6	18	24	6
400	12	32	5	15	32	8	21	32	8

Dimensions of Single-pole Slate Fuse Blocks



Front Connections—Single Throw—Not Fused

Capacity Amperes	DOUBLE-POLE			THREE-POLE			FOUR-POLE		
	W.	H.	D.	W.	H.	D.	W.	H.	D.
30	6	15	4	10	15	4	12	15	4
60	6	15	4	10	15	4	12	15	4
100	8	21	5	12	21	5	15	21	5
200	10	24	5	12	24	5	18	24	5
300	10	27	6	15	27	6	18	27	6
400	12	30	6	15	30	6	21	30	6
600	12	30	8	15	30	8	21	30	8

Double or treble width if 2 or 3-pole are used
Dimensions do not apply to branch type.

Amperes	Width	Length	Amperes	Width	Length
30	1⅜	3⅜	200	3	8
60	1¾	5	400	3½	9¼
100	2¼	8	600	3½	11



Multi Clamp Bushings

For Cabinets, Outlet Boxes and General Work



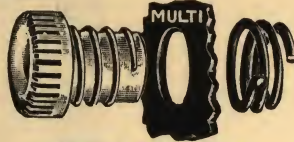
Bushing

The bushing consists of a threaded porcelain body made in sizes to fit the standard steel box knockout and is clamped securely in place by the threading on of a helix spring coil of wire.

When Multi Bushings are locked securely in place, they will not work loose under continued vibration, because of the great resiliency in the spring which relieves the direct jar on the porcelain.

The coil springs are tempered and treated.

The small prong shown on the inner side of the coil facilitates the removal of the spring when withdrawing bushing.



Method of Attaching

Cat. No.	A	B	DIMENSIONS, INCHES			
			C	D	E	
10	7/8	5/16	9/16	41/64	9/32	
15	1 1/8	3/8	3/4	13/16	3/16	
20	1 1/8	3/8	3/4	13/16	1/16	
30	1 5/16	3/8	7/8	1	3/16	
40	1 9/16	1/2	7/8	1 5/16	3/4	
50	2	1 1/2	1	1 9/16	1 3/8	
55	2 3/8	9/16	1	1 7/8	1 3/8	
60	2 3/4	5/8	1 1/16	2 5/16	1 5/8	

Cat. No.	Maximum Size of Wire	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
10	14 B & S	25	250	9	\$.05
15	14 B & S	25	250	16	.06
20	6 B & S	25	250	14	.06
30	2 B & S	25	250	24	.07
40	000	25	150	21	.10
50	350,000	10	100	20	.15
55	600,000	10	100	30	.20
60	1,000,000	10	50	20	.25

Multi No-clamp Bushings

For Outlet Boxes and Steel Cabinets



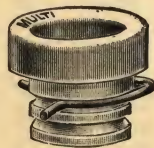
No. 90

This bushing is made from the best grade of porcelain and has a smooth well glazed head; it affords positive protection to wires and cannot drop out or be pulled from position. A strong coppered steel spring clip forced in the groove over the shank securely locks the bushing in place.

The first groove is spaced about 1/8-inch from under shoulder of head, thus permitting easy assembly with standard steel cabinet or outlet box.

In the 91 and 92 sizes a second groove is provided, making it suitable for a cast iron box or frame having a thicker metal wall.

The No-clamp Bushing is recommended for temporary work, or in places where it may be sealed in with wax, or where it is not essential that it be locked up tight against rattling or vibration.



No. 91

Cat. No.	A	B	DIMENSIONS, INCHES			
			C	D	E	
90A	7/8	1/4	1/4	9/16	9/32	
90B	7/8	1/4	1/4	9/16	13/32	
91	7/8	1/4	1/2	5/8	13/32	
92A	1 1/8	1/4	9/16	13/16	13/32	
92B	1 1/8	1/4	9/16	13/16	1 1/32	

Cat. No.	Maximum Size of Wire	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
90A	14 B & S	200	1000	17	\$3.00
90B	8 B & S	200	1000	16	3.00
91	8 B & S	150	750	18	3.25
92A	10 B & S	100	500	18	3.50
92B	6 B & S	100	500	17 1/2	3.50

Universal Insulator Supports



No. 500



No. 501



No. 502



No. 503

Universal Insulator Supports are specially designed malleable iron clamps for securing insulators in any position to open steel framework for wiring mills, foundries, factories, shops, bridges, piers, elevated railways, subways, train sheds and similar structures. They are easily attached, and by their use, electric wiring for lights, motors, generators, cranes, etc., can be installed with a saving of labor and material.

The principal advantage of the single set screw feature is the three-point contact which is more rigid and secure than the four-point contact. A wrench can be used more freely than when two set screws were close together.

Cat. No.	Size of Support Inches	Standard Tapping for Screws and Bolts (See Note A)	Price per 100
500	1	1/4-inch—20 (No. 14-20)	\$20.00
501	1 1/2	5/16 "—18 (" 18-18)	34.00
502	2	3/8 "—16 (" 24-16)	46.00
503	2 1/2	1/2 "—13	68.00

Prices include leather washers for insulators, but do not include machine screws or bolts for insulators.

Table of Wires, Insulators, Supports and Screws



Showing No. 500 Support with Two No. 5 1/2 Split Insulators. Support is Tapped Special for No. 10-24-thread Machine Screw



Showing No. 502 Support with No. 3 1/2 Insulator. Support is Tapped Standard for No. 24-16-thread Machine Screw

These combinations of wire sizes, insulators and supports should be followed only after consideration of the problem in hand, taking account of character of work and stresses involved, strength of insulators, etc. Table shows largest size of wires suitable for insulators listed; smaller wires may, of course, be used as desired.

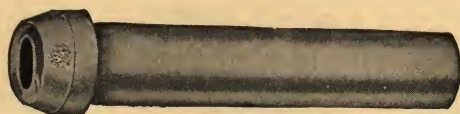
See Notes	Largest Wire Fitting Insulator Groove	Insulator Std. No.	Size of Insulator Support Inches	Screws and Bolts Sherardized		Price per 100
				Size	No. 14-20-F.H.	
.....	No. 12	5 1/2	1	2 -in.	No. 14-20-F.H.	\$1.46
A	" 12	5 1/2 Split	1	2 1/4 "	" 10-24 "	1.18
.....	" 8	33 Sec.	1 1/2	2 3/4 "	" 18-18 "	2.88
A	" 6	9419	1 1/2	2 1/2 "	" 14-20 "	1.84
.....	" 6	4 1/2	1 1/2	2 1/4 "	" 18-18 "	2.26
.....	" 4	3 1/2	2	2 1/2 "	" 24-16 "	3.68
A	" 4	9420	2	2 3/4 "	" 18-18 "	2.88
B	" 2	2	2	2 1/2 "	" 24-16 "	3.68
B	" 1	26	2	2 1/2 "	" 24-16 "	3.68
B	" 0	24	2	2 1/4 "	" 24-16 "	3.44
B	" 0	30	2	2 1/2 "	" 24-16 "	3.68
C	" 2-0	3 W. G.	2	2 1/2 "	" 24-16 "	3.68
C	" 2-0	1	2	3 1/4 "	" 24-16 "	6.11
B-C	2500000 M.	49	2 1/2	2 "	x 1 1/2-in. bolt	3.86
B-C	300000 "	Murdock-B	2	3 1/2 "	x 3/8 "	3.04
B-C	300000 "	Murdock-B	2 1/2	3 1/2 "	x 1/2 "	4.64
A-B-C	500000 "	29	2 1/2	3 "	x 3/8 "	2.88
B-C	1000000 "	52	2 1/2	3 3/4 "	x 1/2 "	4.90
B-C	1000000 "	53	2 1/2	3 1/2 "	x 1/2 "	4.64
B-C	1000000 "	Murdock-A	2 1/2	4 "	x 1/2 "	4.90
.....	To fit glass ins.	38 and Glass	2 1/2	Special wood pin and bolt		10.00

NOTE A.—Items marked require supports to be tapped special for screws or bolts, without extra charge.

NOTE B.—Should have iron washer under screw or bolt head. NOTE C.—B. & D. Cleats also recommended.



Porcelain Tubes



Price, per 100

For Tubes Up to and including 24 Inches Long

Length Under Head Inches	INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES						
	$\frac{1}{2} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{1}{4}$	$\frac{5}{8} \times \frac{1}{4}$	$\frac{3}{4} \times \frac{1}{4}$	$1 \times \frac{1}{4}$	$1 \frac{1}{4} \times \frac{1}{4}$
$\frac{1}{2}$	\$1.60	\$2.00					
1	1.70	2.10	\$2.70	\$4.00	\$6.00	\$10.00	
$1 \frac{1}{2}$	1.80	2.20	2.80	4.60	7.00	11.20	
2	1.90	2.40	3.00	5.20	8.00	12.50	
$2 \frac{1}{2}$	2.10	2.70	3.30	5.80	9.00	13.80	\$19.00
3	2.30	3.00	3.70	6.50	10.00	15.00	21.00
4	3.00	4.00	4.80	8.00	11.60	16.80	24.00
5	3.90	5.00	6.00	9.50	13.20	18.60	27.20
6	5.00	6.00	7.20	11.00	14.80	20.40	30.60
8	9.00	10.50	13.00	14.00	18.00	24.00	37.60
10	16.70	18.60	21.50	25.00	29.00	37.50	45.00
12	24.40	26.70	30.00	34.00	39.00	50.00	70.00
14	32.10	34.80	38.50	43.00	49.20	62.50	87.00
16	39.80	42.90	47.00	52.00	59.40	75.00	104.00
18	47.50	51.00	55.50	61.00	69.60	87.50	121.00
20	55.20	59.10	64.00	70.00	79.80	100.00	138.00
24	70.60	75.30	81.00	88.00	100.00	125.00	172.00

Length Under Head Inches	INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES						
	$1 \frac{1}{2} \times 2 \frac{1}{4}$	$1 \frac{3}{4} \times 2 \frac{1}{4}$	$2 \times 2 \frac{1}{4}$	$2 \frac{1}{4} \times 3 \frac{1}{16}$	$2 \frac{1}{2} \times 3 \frac{1}{4}$	$2 \frac{3}{4} \times 4 \frac{1}{4}$	$3 \times 4 \frac{1}{2}$
$2 \frac{1}{2}$	\$25.50	\$34.00	\$46.00	\$59.00	\$74.00	\$92.00	\$115.00
3	28.00	37.00	50.00	64.00	80.00	100.00	125.00
4	32.00	44.50	63.00	83.50	109.00	145.00	175.00
5	36.00	52.00	76.00	103.00	138.00	190.00	225.00
6	40.50	60.00	90.00	122.50	167.00	235.00	275.00
8	49.00	75.00	116.00	161.50	225.00	325.00	375.00
10	58.00	90.00	143.00	200.50	283.00	415.00	475.00
12	102.50	160.00	170.00	240.00	342.00	505.00	575.00
14	123.50	190.00	280.00	400.00	560.00	595.00	680.00
16	144.50	220.00	320.00	452.00	624.00	820.00	1020.00
18	166.00	250.00	360.00	504.00	688.00	890.00	1115.00
20	187.50	280.00	400.00	556.00	752.00	960.00	1210.00
24	230.00	340.00	480.00	660.00	880.00	1100.00	1400.00

Special Porcelain Tubes



To obtain list price of floor, curved and curved end, split and cross-over tubes, multiply as follows:

Solid Floor Tubes

Multiply list by three. For list price on these tubes add three inches to length of standard tubes.

Split Floor Tubes

Multiply list by six. For list price on these tubes add three inches to length of standard tubes.

Headless Tubes Above Eight Inches Long

Multiply list by 4. On these tubes measurements are to be computed over all.

Headless Tubes Eight Inches Long and Under

Same list as standard tubes. On these tubes measurements are to be computed over all.

Curved and Curved End Tubes

Multiply list by three. On these tubes measurements are to be computed over all.

Split Regular Tubes

Multiply list by 10. On these tubes measurements are to be computed under head.

Cross-over Split Tubes

Multiply list by 12. On these tubes measurements are to be computed between heads.

Cross-over Solid Tubes

Multiply list by six. On these tubes measurements are to be computed between heads.

Add 50 per cent to list for glazed tubes.

Porcelain Tubes

Standard Package Quantities and Weights
Per Standard Package

Length Under Head Inches	INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES					
	$\frac{5}{8} \times \frac{1}{16}$		$\frac{3}{4} \times \frac{1}{16}$		$\frac{1}{2} \times \frac{1}{16}$	
	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.
$\frac{1}{2}$	15000	375	12500	375	....	...
1	11000	375	9500	375	8500	360
$1 \frac{1}{2}$	9000	375	8000	375	7500	360
2	7000	375	7000	370	5000	355
$2 \frac{1}{2}$	6000	360	5000	350	4000	350
3	5400	355	3800	340	2700	340
4	3900	315	2900	340	2000	335
5	3200	330	2500	340	1700	340
6	3000	330	2000	335	1500	340
8	2290	340	1600	340	1200	335
10	1700	335	1200	320	1000	335
12	1200	340	1000	305	800	340
14	1000	335	800	200	700	320
16	800	340	700	300	550	300
18	500	340	450	290	475	250
20	450	340	400	290	300	270
24	400	340	400	300	300	260

Length Under Head Inches	INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES					
	$\frac{5}{8} \times \frac{1}{16}$		$\frac{3}{4} \times \frac{1}{16}$		$1 \times \frac{1}{16}$	
	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.
1	4500	380	3700	330	2000	350
$1 \frac{1}{2}$	3200	375	2500	320	1500	360
2	2500	355	1800	310	1100	345
$2 \frac{1}{2}$	2000	325	1500	295	900	330
3	1800	320	1250	285	750	315
4	1450	325	850	250	600	300
5	1200	320	700	255	500	290
6	1000	305	600	255	400	280
8	700	275	450	245	325	290
10	500	255	350	240	245	270
12	375	220	325	240	190	255
14	310	215	250	230	150	230
16	250	205	185	205	140	230
18	200	205	160	200	110	210
20	160	175	125	180	85	195
24	160	195	125	210	85	215

Length Under Head Inches	INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES					
	$1 \frac{1}{4} \times 1 \frac{1}{16}$		$1 \frac{1}{2} \times 2 \frac{1}{16}$		$1 \frac{3}{4} \times 2 \frac{1}{16}$	
	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.
$2 \frac{1}{2}$	525	320	350	325	250	380
3	425	310	300	315	225	370
4	360	310	250	305	200	360
5	325	305	225	305	175	340
6	250	300	180	305	150	320
8	180	290	140	300	100	300
10	140	265	110	300	80	290
12	120	265	90	280	70	280
14	100	255	75	275	90	260
16	85	175	65	265	60	255
18	70	235	55	250	50	250
20	55	215	40	220	50	240
24	55	240	40	250	50	250

For tubes larger than $1 \frac{3}{4} \times 24$ inches, a standard package is 50.

Barrel size is 20-inch head and 30-inch stave.

A standard package or unit container cannot be made up of assorted sizes.

A standard package is a barrel for which a charge will be made. When ordered put up in paper boxes, or in wooden or corrugated boxes of kegs containing 500 or 1000 pieces or pairs, an additional charge will be made. Prices for special packages will be furnished upon application.



Nail-It Split Insulators

Nail-it consists of cap, base, 10d nail and nail head assembled. It has two grooves and will take wire sizes 12 to 14.

Cat. No.	Diam. Inches	Height Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
1	1 $\frac{3}{16}$	1 $\frac{3}{4}$	2800	450	\$70.00

Screw-It Split Insulators

Screw-it consists of base, cap and 3-inch screw assembled. No. 1 New Code and Detroit have two grooves and will take wire sizes 12 to 14. Nos. 9419 and 9420, four grooves, will take wire sizes 8 to 10 and 4 to 6 respectively.

Cat. No.	Diam. Inches	Height Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
1 New Code	1 $\frac{3}{16}$	1 $\frac{3}{4}$	2800	500	\$90.00
Detroit	1 $\frac{1}{4}$	1 $\frac{3}{4}$	2600	490	100.00
9419 Type	1 $\frac{1}{2}$	1 $\frac{7}{8}$	1800	500	150.00
9420 "	1 $\frac{5}{16}$	2 $\frac{1}{8}$	900	500	225.00



Grip-It Porcelain Split Insulators

New Code

Two grooves. For No. 12 and No. 14 wire.

Diameter, 1 $\frac{1}{2}$ inches; height, 1 $\frac{3}{4}$ inches.

Standard package, 3800

Weight, standard package, 490 pounds.

Price.....per 1000 \$52.00



Porcelain Split Insulators

No. 9419

Has four grooves and will take wire sizes 8 to 10.

Cat. No.	Diam. Inches	Height Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
9419	1 $\frac{1}{2}$	1 $\frac{7}{8}$	2000	500	\$87.00

No. 9420

Four grooves; will take wire sizes 4 to 6.

Cat. No.	Diam. Inches	Height Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
9420	1 $\frac{5}{16}$	2 $\frac{1}{8}$	1000	500	\$142.00



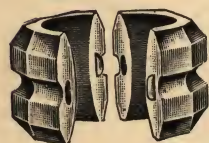
Porcelain Round Reversible Split Insulators

Nos. 101, 102 and 103 have 2 grooves.

Cat. No.	For Size Wire	Diam. Inches	Height Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
101	12-14	1 $\frac{3}{16}$	1 $\frac{3}{4}$	3800	500	\$52.00
102	8-10	1 $\frac{1}{2}$	1 $\frac{7}{8}$	2700	500	110.00
103	4-6	2	2	900	500	160.00



No. 22 Victory Porcelain Split Insulators



Has 1-inch hole and $\frac{5}{16}$ -inch groove.

Cat. No.	Hght. In.	Diam. In.	No. in Bbl.	Wt., Lbs. per Bbl.	Price per 1000
22	1 $\frac{5}{8}$	2 $\frac{1}{8}$	1400	470	\$156.00

No. 4 $\frac{1}{2}$ Porcelain Insulators

Cat. No.	Height.....inches	Diameter....."	Hole....."	Groove....."	No. in Barrel.....	Weight per Barrel.....lbs.	Price. No. 4 $\frac{1}{2}$.....per 1000
	4 $\frac{1}{2}$	1 $\frac{7}{8}$	1 $\frac{1}{2}$	$\frac{3}{8}$	2000	450	\$55.00



No. 5 $\frac{1}{2}$ Porcelain Insulators

Cat. No.	Height.....inches	Diameter....."	Hole....."	Groove....."	No. in Barrel.....	Weight per Barrel.....lbs.	Price, No. 5 $\frac{1}{2}$.....per 1000
	5 $\frac{1}{2}$	1 $\frac{9}{16}$	1 $\frac{1}{8}$	$\frac{1}{4}$	4000	490	\$36.00



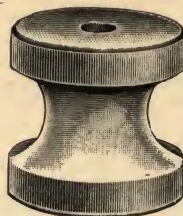
No. 7 Porcelain Insulators

Cat. No.	Height.....inches	Diameter....."	Hole....."	Groove....."	No. in Barrel.....	Weight per Barrel.....lbs.	Price, No. 7.....per 1000
	7	3 $\frac{3}{4}$	$\frac{7}{8}$	$\frac{1}{4}$	9000	295	\$26.00



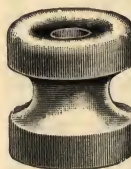
No. 24 Porcelain Insulators

Cat. No.	Height.....inches	Diameter....."	Hole....."	Groove....."	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price, No. 24.....per 1000
	24	1 $\frac{3}{4}$	1 $\frac{7}{8}$	$\frac{7}{8}$	1200	475	\$102.00



No. 36 Porcelain Insulators

Cat. No.	Height.....inches	Diameter....."	Hole....."	Groove....."	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price, No. 36.....per 1000
	36	1 $\frac{3}{4}$	1 $\frac{3}{4}$	$\frac{1}{2}$	1600	450	\$90.00



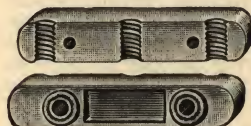
No. 334 Standard Two-wire Porcelain Cleats

Cat. No.	Height.....inches	Width....."	Length....."	Groove....."	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price, Glazed...per 1000	Unglazed.....
	334	1 $\frac{1}{8}$	$\frac{5}{8}$	3 $\frac{3}{8}$	2400	480	\$90.00	\$52.00



No. 334 Standard Three-wire Porcelain Cleats

Cat. No.	Height.....inches	Width....."	Length....."	Groove....."	Std. Pkg.	Wt. Lbs., Std. Pkg.	Price, Glazed...per 1000	Unglazed.....
	334	1 $\frac{1}{8}$	$\frac{5}{8}$	3 $\frac{3}{8}$	2400	480	\$90.00	\$52.00



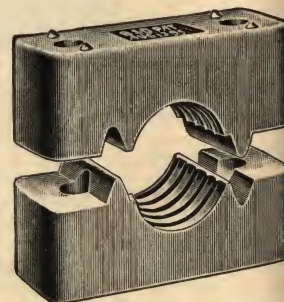
B & D Porcelain Cleats

One-wire

The B & D single-wire cleat is regularly furnished with round groove as standard. V groove will be supplied, if so specified.

Style A cleats carry wires one inch over wiring surface. Cleats are shipped in barrels in quantities shown below.

Cat. No.	Description	Size of Wire	Size of Groove Inches	Std. Pkg.	Price per 1000 Pairs
1	Std.	14 to 6	1 $\frac{1}{8}$ x $\frac{3}{8}$	3000	\$74.00
1 $\frac{1}{2}$	"	6 " 2	3 $\frac{1}{8}$ x $\frac{1}{2}$	2200	96.00
2	"	2 " 0	3 $\frac{1}{8}$ x $\frac{1}{2}$	1000	110.00
2 $\frac{1}{2}$	"	0 " 000	1 $\frac{1}{2}$ x $\frac{5}{8}$	1000	140.00
3	"	000- 200000	3 $\frac{1}{8}$ x $\frac{3}{4}$	700	180.00
3 $\frac{1}{2}$	"	200000- 500000	3 $\frac{1}{8}$ x1	550	260.00
4	"	500000-1000000	1 "x1 $\frac{1}{8}$	400	330.00
4 $\frac{1}{4}$	"	800000-1250000	1 $\frac{1}{8}$ x1 $\frac{1}{2}$	200	500.00
4 $\frac{1}{2}$	"	1000000-2000000	1 $\frac{1}{8}$ x1 $\frac{1}{2}$	165	620.00
1	Style A	14 to 6	1 $\frac{1}{8}$ x $\frac{3}{8}$	2250	80.00
1 $\frac{1}{2}$	" A	6 " 2	3 $\frac{1}{8}$ x $\frac{1}{2}$	1650	108.00
2	" A	2 " 0	3 $\frac{1}{8}$ x $\frac{1}{2}$	1350	120.00
2 $\frac{1}{2}$	" A	0 " 000	1 $\frac{1}{2}$ x $\frac{5}{8}$	850	156.00
3	" A	000 " 200000	3 $\frac{1}{8}$ x $\frac{3}{4}$	600	196.00
4 $\frac{1}{4}$	" A	800000 " 1250000	1 $\frac{1}{8}$ x1 $\frac{1}{2}$	200	500.00





G-E Porcelain Clamp Insulators

Without Clamps



Cat. No.	Size Hole In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100	Cat. No.	Size Hole In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
9214	5/8	100	25	\$3.50	9237	1 3/8	100	109	\$7.70
9215	3/8	100	25	3.50	9238	1 1/2	100	110	7.70
9216	1/2	100	25	3.50	9243	1 3/4	100	180	12.60
9221	5/8	100	30	3.85	9244	2	100	163	12.60
9222	3/4	100	25	3.85	65247	2 1/4	100	200	14.70
9228	7/8	100	60	4.55	64487	2 1/2	100	180	14.70
9229	1	100	57	4.55	64934	2 3/4	100	170	14.70
9230	1 1/8	100	45	4.55	64488	3	100	220	17.50
9236	1 1/4	100	118	7.70	64936	3 1/2	100	210	17.50

Clamps for Insulators

For Insulators Nos.	STEEL			COMPOSITION METAL		
	Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100	Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
9214	9499	96	\$10.50	22718	86	\$63.00
9215						
9216						
9221						
9222						
9228	9498	96	12.60	22750	96	70.00
9229						
9230						
9236						
9237						
9238	9361	168	17.50	22751	184	115.50
9243						
9244						
65247						
64487						
64934	9360	240	24.50	22752	259	122.50
64488						
64936						
	9359	320	31.50	22753	336	129.50
	64489	400	38.50	64490	400	136.50
	64938	420	45.50	64940	420	143.50

Standard package, 100.

G-E Porcelain Rack Insulators



For Cable



For Busbar

For Cables

*Cat. No.	Size Cable In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
69009	1 1/2 to 1	100	80	\$10.50
49031	1 1/2 " 1	100	170	17.50
69010	1 1/2 " 2	100	155	17.50

*Includes two halves.

†Small size. ‡Large size.

For Busbars

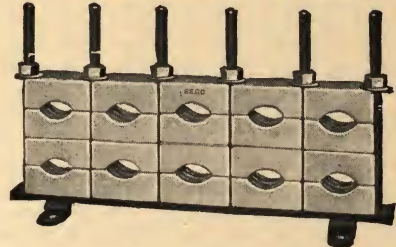
*Cat. No.	Size Busbar In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
69011	2 x 1/2	100	155	\$21.00
	2 1/2 x 1			

*Includes two halves. Prices do not include racks.

G-E Insulator Racks



One Tier of Insulators for Busbars



Two Tier Rack for Cables

For Insulators Nos. 49031, 69010 and *69011

No. Insulators in Rack	Std. Pkg.	FOR ONE TIER		FOR TWO TIERS	
		Cat. No.	Price per 100	Cat. No.	Price per 100
24	10			36299	\$410.00
22	10			121471	403.00
20	10			121472	385.00
18	10			131473	333.00
16	10			36300	300.00
14	10			121474	287.00
12	10	69012	\$385.00	36301	280.00
11	10	121480	350.00		
10	10	121481	333.00	36302	192.50
9	10	121482	298.00		
8	10	69013	280.00	36303	161.00
7	10	121483	266.00		
6	10			36304	133.00
5	10	69014	185.50		
4	10			121490	122.50
3	10	69015	126.00		
2	10	121484	112.00		

*When busbar does not exceed 2x1/2 inches.

For Insulator No. 69009

24	10	.....	.....	36294	\$300.00
22	10	.....	.....	121475	280.00
20	10	.....	.....	121476	263.00
18	10	.....	.....	121477	245.00
16	10	.....	.....	36295	192.50
14	10	.....	.....	121478	175.00
12	10	69020	\$280.00	36296	157.50
11	10	121485	263.00	.....	.....
10	10	121486	245.00	36297	122.50
9	10	121487	210.00	.....	.....
8	10	69021	182.00	49239	.....
7	10	121488	157.50	.....	.....
6	10	51888	.....	36298	91.00
5	10	69022	112.00	.....	.....
4	10	49107	.....	121479	84.00
3	10	69023	87.50	.....	.....
2	10	121489	70.00	.....	.....

For Use with Insulator No. *69011

24	10	.....	.....	36305	\$420.00
22	10	.....	.....	121459	403.00
20	10	.....	.....	121460	385.00
18	10	.....	.....	121461	333.00
16	10	.....	.....	36306	300.00
14	10	.....	.....	121462	287.00
12	10	69016	\$395.00	36307	280.00
11	10	121465	385.00	.....	.....
10	10	121466	350.00	36308	192.50
9	10	121467	315.00	.....	.....
8	10	69017	280.00	121463	185.50
7	10	121468	266.00	.....	.....
6	10	.....	.....	36309	133.00
5	10	69018	185.50	.....	.....
4	10	121469	175.00	121464	126.00
3	10	69019	126.00	.....	.....
2	10	121470	112.00	.....	.....

*When busbar does not exceed 2 1/2 x 1 inches.
Prices do not include insulators.



Greenfielduct Rigid Conduit



The hot dip process of galvanizing was selected for Greenfielduct after long study of the action of corrosive agencies and exhaustive tests under the most severe conditions.

In this process the conduit is dipped in a bath of molten zinc and then wiped by special machinery providing an even substantial coating of zinc throughout the entire length of the interior as well as the exterior of the conduit. There are no weak spots inside or out, as the process is mechanical and the coating homogeneous.

The black enamel coating on the interior is not for protective purposes, but to comply with the Underwriter's requirements identifying it as an electrical conduit. This coating may be entirely removed without impairing the rust resisting ability of the conduit.

Greenfielduct has clean-cut, firm and sharp threads and perfect couplings, making it easy to work with and eliminating the necessity of rethreading.

Spragueduct Rigid Conduit



Spragueduct is made from the same high grade, mild steel tubing as Greenfielduct, has the same clean-cut threads, but is protected with an exterior and interior coating of black enamel instead of zinc.

Conduit

Size In.	Threads per Inch	DIAMETER, INCHES		Feet per Bundle	Weight per Foot Lbs.	Price per Ft.
		External	Internal			
1/4	18	0.540	0.364	100	0.425	\$.081 1/2
3/8	18	0.675	0.493	100	0.568	.081 1/2
1/2	14	0.840	0.622	100	0.852	.081 1/2
3/4	14	1.050	0.824	50	1.134	.111 1/2
1	11 1/2	1.315	1.049	50	1.684	.17
1 1/4	11 1/2	1.660	1.380	30	2.281	.23
1 1/2	11 1/2	1.900	1.610	10	2.731	.27 1/2
2	11 1/2	2.375	2.067	10	3.678	.37
2 1/2	8	2.875	2.469	10	5.819	.58 1/2
3	8	3.500	3.068	10	7.616	.76 1/2
3 1/2	8	4.000	3.548	10	9.202	.92
4	8	4.500	4.026	10	10.889	1.09
4 1/2	8	5.000	4.506	10	12.642	1.27
5	8	5.563	5.047	10	14.810	1.48
6	8	6.625	6.065	10	19.185	1.92

Couplings

Size In.	Weight per 100 Lbs.	Price Each	Radius Inches	Offset Inches	Standard Pkg.	Weight per 100 Lbs.	Price Each
1/4	6.0	\$.05	3.125	5.375	125	42	\$.19
3/8	9.5	.06	3.125	5.375	125	44	.19
1/2	11.6	.07	3.500	6.500	125	82	.19
3/4	20.9	.10	4.000	7.000	100	113	.25
1	34.3	.13	4.875	7.875	50	191	.37
1 1/4	53.5	.17	6.250	9.250	25	299	.45
1 1/2	74.3	.21	7.750	11.250	20	435	.60
2	120.8	.28	8.625	12.625	15	646	1.10
2 1/2	172.0	.40	9.500	13.500	10	1111	1.80
3	249.8	.60	12.250	16.250	8	1719	4.80
3 1/2	424.1	.80	16.125	20.125	6	2528	10.60
4	474.1	1.00	17.000	21.000	4	3124	12.25
4 1/2	550.0	1.50	18.000	24.375	...	3250	18.55
5	700.0	1.65	24.000	32.000	...	5500	25.75
6	750.0	2.40	30.000	39.750	...	9000	32.00

Conduits, couplings and elbows are ordered by their nominal internal diameter. Conduits in 10-foot lengths, threaded on both ends with one coupling.

Weights and dimensions are nominal.

Standard Sizes of Conduits

For the Installation of Wires and Cables

As Adopted and Recommended by the National Association of Electricians

Based on the use of not more than three 90-degree elbows in runs taking up to and including No. 10 wires, and two elbows for wires longer than No. 10. Wires Nos. 8 and larger are stranded.

Single wire combinations are based on straight run without elbows. Special permission is required of the inspection department having jurisdiction for the installation of more than nine wires in the same conduit.



1/2"



1/2"



1/2"



3/4"



3/4"



3/4"



1"



1"



1"



1 1/4"



1 1/4"



1 1/4"



1 1/2"



1 1/2"



1 1/2"



2"



2"



2"



2 1/2"



2 1/2"



2 1/2"



3"



3"



3"



3 1/2"



3 1/2"



3 1/2"



4"



4"



4"



Standard Sizes of Conduit For the Installation of Wire and Cable

As adopted and recommended by The National Electrical Contractors' Association of the United States.

Conduit sizes based on the use of not more than three 90° elbows in runs taking up to and including No. 10 wires; and two elbows for wires larger than No. 10. Wires No. 8 and larger are stranded.

Size Wire	Cap. Amps.	SIZE OF CONDUIT, INCHES							
		ONE WIRE IN A CONDUIT		TWO WIRES IN A CONDUIT		THREE WIRES IN A CONDUIT		FOUR WIRES IN A CONDUIT	
		Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.
14	15	1/2	.84	1/2	.84	1/2	.84	3/4	1.05
12	20	1/2	.84	3/4	1.05	3/4	1.05	3/4	1.05
10	25	1/2	.84	3/4	1.05	3/4	1.05	1	1.31
8	35	1/2	.84	1	1.31	1	1.31	1	1.31
6	50	1/2	.84	1	1.31	1 1/4	1.66	1 1/4	1.66
5	55	3/4	1.05	1 1/4	1.66	1 1/4	1.66	1 1/4	1.66
4	70	3/4	1.05	1 1/4	1.66	1 1/4	1.66	1 1/2	1.9
3	80	3/4	1.05	1 1/4	1.66	1 1/4	1.66	1 1/2	1.9
2	90	3/4	1.05	1 1/4	1.66	1 1/2	1.9	1 1/2	1.9
1	100	3/4	1.05	1 1/2	1.9	1 1/2	1.9	2	2.37
0	125	1	1.31	1 1/2	1.9	2	2.37	2	2.37
00	150	1	1.31	2	2.37	2	2.37	2 1/2	2.87
000	175	1	1.31	2	2.37	2	2.37	2 1/2	2.87
0000	225	1 1/4	1.66	2	2.37	2 1/2	2.87	2 1/2	2.87
250000	237	1 1/4	1.66	2 1/2	2.87	2 1/2	2.87	3	3.5
300000	275	1 1/4	1.66	2 1/2	2.87	2 1/2	2.87	3	3.5
400000	325	1 1/4	1.66	3	3.5	3	3.5	3 1/2	4
500000	400	1 1/2	1.9	3	3.5	3	3.5	3 1/2	4
600000	450	1 1/2	1.9	3	3.5	3 1/2	4	...	...
700000	500	2	2.37	3 1/2	4	3 1/2	4	...	...
800000	550	2	2.37	3 1/2	4	4	4.5	...	...
900000	600	2	2.37	3 1/2	4	4	4.5	...	...
1000000	650	2	2.37	4	4.5	4	4.5	...	...
1250000	750	2 1/2	2.87	4 1/2	5	4 1/2	5	...	...
1500000	850	2 1/2	2.87	4 1/2	5	5	5.56	...	...
1750000	950	3	3.5	5	5.56	5	5.56	...	...
2000000	1050	3	3.5	5	5.56	6	6.62	...	...

Duplex Wire

14	15	1/2	.84	3/4	1.05	1	1.31	1	1.31
12	20	1/2	.84	3/4	1.05	1	1.31	1 1/4	1.66
10	25	3/4	1.05	1	1.31	1 1/4	1.66	1 1/4	1.66

EXAMPLE.—To ascertain the size of conduit for three No. 0000 wire, follow down the wire column to No. 0000 and then across to the section headed "Three Wires in a Conduit," and it will be seen that 2 1/2-inch conduit is the size to use and that the external diameter is 2.87 inches.

Three-wire Convertible System

SIZE OF WIRES		SIZE OF CONDUIT, IN.		SIZE OF WIRES		SIZE OF CONDUIT, IN.	
Two-wire	One-wire	Int.	Ext.	Two-wire	One-wire	Int.	Ext.
14	10	3/4	1.05	00	350000	2 1/2	2.87
12	8	3/4	1.05	000	400000	2 1/2	2.87
10	6	1	1.31	0000	550000	3	3.5
8	4	1	1.31	250000	600000	3	3.5
6	2	1 1/4	1.66	300000	800000	3	3.5
5	1	1 1/4	1.66	400000	1000000	3 1/2	4
4	0	1 1/2	1.9	500000	1250000	4	4
3	00	1 1/2	1.9	600000	1500000	4	4.5
2	000	1 1/2	1.9	700000	1750000	4 1/2	5
1	0000	2	2.37	800000	2000000	4 1/2	5
0	250000	2	2.37	...	...	...	...

Single Wire Combination

Based on straight run without elbows. Size wire, No. 14 rubber covered, double braided, solid.

NOTE.—Special permission is required of the inspection department having jurisdiction for the installation of more than nine wires in the same conduit.

No. of Wires		SIZE OF CONDUIT, IN.		No. of Wires		SIZE OF CONDUIT, IN.	
Size Wire	Int.	Ext.	Size Wire	Int.	Ext.	Size Wire	Int.
3	1 1/2	.84	24	1 1/2	1.9		
5	3/4	1.05	40	2	2.37		
10	1	1.31	74	2 1/2	2.87		
18	1 1/4	1.66	90	3	3.5		

Signal System

Based on straight run without elbow. Light insulation fixture wire.

No. of Wires		SIZE OF CONDUIT, IN.		No. of Wires		SIZE OF CONDUIT, IN.	
Size Wire	Int.	Ext.	Size Wire	Int.	Ext.	Size Wire	Int.
10	16	1/2	.84	18	18	1 1/2	.84
20	16	3/4	1.05	30	18	3/4	1.05
30	16	1	1.31	40	18	1	1.31
70	16	1 1/4	1.66	100	18	1 1/4	1.66
90	16	1 1/2	1.9	130	18	1 1/2	1.9
150	16	2	2.37	200	18	2	2.37

Weights of Conduit

Size Inches	QUANTITY, IN FEET					
	500	1000	2000	3000	4000	5000
	WEIGHT, POUNDS					
1/2	426	852	1704	2556	3408	4260
3/4	567	1134	2268	3402	4536	5670
1	842	1684	3368	5052	6736	8420
1 1/4	1140 1/2	2281	4562	6843	9124	11405
1 1/2	1365 1/2	2731	5462	8193	10924	13655
2	1839	3678	7356	11034	14712	18390
2 1/2	2909 1/2	5819	11638	17457	23276	29095
3	3808	7616	15232	22848	30464	38080
3 1/2	4601	9202	18404	27606	36808	46010
4	5444 1/2	10889	21778	32667	43556	54445
4 1/2	6321	12642	25284	37926	50568	63210

Size Inches	QUANTITY, IN FEET					
	7000	8000	9000	10000	15000	20000
	WEIGHT, POUNDS					
1/2	5964	6816	7668	8520	12780	17040
3/4	7938	9072	10206	11340	17010	22680
1	11788	13472	15156	16840	25260	33680
1 1/4	15967	18248	20529	22810	34215	45620
1 1/2	19117	21848	24579	27310	40965	54620
2	25746	29424	33102	36780	55170	73560
2 1/2	40733	46552	52371	58190	87285	116380
3	53312	60928	68544	76160	114240	152320
3 1/2	64414	73616	82818	92020	138030	184040
4	76223	87112	98001	108890	163335	217780
4 1/2	88494	101136	113778	126420	189630	252840

Weights of Elbows

Size Inches	QUANTITY						
	1	2	3	4	5	6	7
	WEIGHT, POUNDS						
3/4	1.2	2.4	3.6	4.8	6	7.2	8.4
1	2	4	6	8	10	12	14
1 1/4	3	6	9	12	15	18	21
1 1/2	4.2	8.5	12.8	17.1	21.3	25.6	29.8
2	7	14	21	28	35	42	49
2 1/2	13	26	39	52	65	78	91
3	17	34	51	68	85	102	119
3 1/2	23	46	69	92	115	138	161
4	27	54	81	108	135	162	189
4 1/2	31	62	93	124	155	186	217

Size Inches	QUANTITY					
	8	9	10	15	20	25
	WEIGHT, POUNDS					
3/4	9.6	10.8	12	18	24	30
1	16	18	20	30	40	50
1 1/4	24	27	30	45	60	75
1 1/2	34.1	38.4	42.7	64.1	85.4	106.7
2	56	63	70	105	140	175
2 1/2	104	117	130	195	260	325
3	136	153	170	255	340	425
3 1/2	184	207	230	345	460	575
4	216	243	270	405	540	675
4 1/2	248	279	310	465	620	775

Weights of Couplings

Size Inches	QUANTITY						
	1	2	3	4	5	6	7
	WEIGHT, POUNDS						
3/4	.2	.4	.6	.8	1	1.2	1.4
1	.3	.6	1	1.3	1.7	2	2.4
1 1/4	.5	1	1.6	2.1	2.6	3.2	3.7
1 1/2	.7	1.4	2.2	2.9	3.7	4.4	5.2
2	1.2	2.4	3.6	4.8	6	7.2	8.4
2 1/2	1.7	3.4	5.1	6.8	8.6	10.3	12
3	2.4	4.9	7.4	9.9	12.4	14.9	17.4
3 1/2	4.2	8.4	12.7	16.9	21.2	25.4	29.6
4	4.7	9.4	14.2	18.9	23.7	28.4	33.1
4 1/2	5.5	11	16.5	22	27.5	33	38.5

Size Inches	QUANTITY					
	8	9	10	15	20	25
	WEIGHT, POUNDS					
3/4	1.6	1.8	2.3	3.1	4.1	5.2
1	2.7	3	3.4	5.1	6.8	8.5
1 1/4	4.2	4.8	5.3	8	10.7	13.3
1 1/2	5.9	6.6	7.4	11.1	14.8	18.5
2	9.6	10.8	12.1	18.1	24.1	30.2
2 1/2	13.7	15.4	17.2	25.8	34.4	43
3	19.9	22.4	24.9	37.4	49.9	62.4
3 1/2	33.9	38.1	42.4	63.6	84.8	106
4	37.9	42.6	47.4	71.1	94.8	118.5
4 1/2	44	49.5	55	82.5	110	137.5



Sprague Steel Conduit Locknuts



Locknuts $\frac{3}{8}$ -inch to 1-inch inclusive are stamped steel.
 $\frac{1}{4}$ -inch to 6-inch inclusive are malleable iron.
 All sizes electro-galvanized finish.

Size In.	Std. Pkg.	Price per 100	Size In.	Std. Pkg.	Price per 100
$\frac{3}{8}$	1000	\$2.50	$2\frac{1}{2}$	50	\$30.00
$\frac{1}{2}$	5000	2.50	3	30	50.00
$\frac{3}{4}$	2000	3.50	$3\frac{1}{2}$	30	70.00
1	200	6.00	4	30	100.00
$1\frac{1}{4}$	200	10.00	$4\frac{1}{2}$	..	140.00
$1\frac{1}{2}$	100	15.00	5	..	160.00
2	50	20.00	6	..	200.00

Sprague Conduit Bushings



Bushings are malleable iron, electro-galvanized finish.

Size In.	Std. Pkg.	Price per 100	Size In.	Std. Pkg.	Price per 100
$\frac{3}{8}$	1000	\$6.00	$2\frac{1}{2}$	50	\$60.00
$\frac{1}{2}$	5000	6.00	3	30	90.00
$\frac{3}{4}$	2000	8.00	$3\frac{1}{2}$	30	200.00
1	200	15.00	4	30	300.00
$1\frac{1}{4}$	200	20.00	$4\frac{1}{2}$	..	400.00
$1\frac{1}{2}$	100	25.00	5	..	500.00
2	50	40.00	6	..	600.00

National Bushcaps

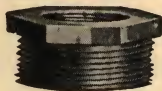
Sherardized Bushings—Tin Caps

National Bushcaps placed on the open ends, when conduits are installed, will keep them clean and clear until wires are drawn in. Std. pkg. 1000.

Price, $\frac{1}{2}$ -inch.....per 100 \$6.00
 " $\frac{3}{4}$ " " 100 8.00
 " 1 " " 100 15.00



Reducing Bushings



Size Inches	Std. Pkg.	Price Each	Size Inches	Std. Pkg.	Price Each
$\frac{3}{4}$ to $\frac{1}{2}$	50	\$.15	2 to 1	25	\$.50
1 " $\frac{1}{2}$	50	.20	2 " $1\frac{1}{4}$	25	.50
1 " $\frac{3}{4}$	50	.20	2 " $1\frac{1}{2}$	25	.50
$1\frac{1}{4}$ " $\frac{1}{2}$	50	.30	$2\frac{1}{2}$ " $\frac{1}{2}$	25	1.00
$1\frac{1}{4}$ " $\frac{3}{4}$	50	.30	$2\frac{1}{2}$ " $\frac{3}{4}$	25	1.00
$1\frac{1}{4}$ " 1	50	.30	$2\frac{1}{2}$ " 1	25	1.00
$1\frac{1}{2}$ " $\frac{1}{2}$	50	.40	$2\frac{1}{2}$ " $1\frac{1}{4}$	25	1.00
$1\frac{1}{2}$ " $\frac{3}{4}$	50	.40	$2\frac{1}{2}$ " $1\frac{1}{2}$	25	1.00
$1\frac{1}{2}$ " 1	50	.40	$2\frac{1}{2}$ " 2	25	1.00
$1\frac{1}{2}$ " $1\frac{1}{4}$	50	.40	3 " $\frac{1}{2}$	25	1.35
2 " $\frac{1}{2}$	25	.50	3 " $\frac{3}{4}$	25	1.35
2 " $\frac{3}{4}$	25	.50	3 " 1	25	1.35

Chase Nipples

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
842	$\frac{1}{2}$	1000	5	\$5.00
843	$\frac{3}{4}$	100	6	8.00
844	1	100	12	15.00
845	$1\frac{1}{4}$	100	19	18.00
846	$1\frac{1}{2}$	50	27	20.00
847	2	50	45	30.00
848	$2\frac{1}{2}$	25	68	50.00



Erickson Conduit Couplings



Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
675	$\frac{1}{2}$	100	25	\$16.00
676	$\frac{3}{4}$	50	33	20.00
677	1	25	53	28.00
678	$1\frac{1}{4}$	25	96	50.00
679	$1\frac{1}{2}$	25	120	75.00
680	2	20	190	130.00
681	$2\frac{1}{2}$	20	370	250.00

Sprague Hollow Center Fixture Studs

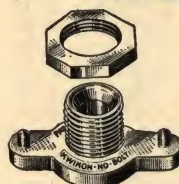
Electrogalvanized finish. Screw centers $1\frac{1}{2}$ inches.



Cat. No.	Size Stud In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP6198	$\frac{3}{8}$	200	32	\$5.00
SP6199	$\frac{1}{2}$	200	38	6.50
Bolts and Nuts	1000	10		.50

Kwikon No-bolt Fixture Studs

Carton quantity, 100. Standard package, 500.



Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
358	$\frac{3}{8}$ -in. Open Type	43	\$3.85
359	$\frac{1}{2}$ " " "	53	4.85
368	$\frac{3}{8}$ " Closed " "	45	4.35
369	$\frac{1}{2}$ " " " "	55	5.35

No. 20 Insulated Fixture Studs

For straight electric work. Height of stud is $1\frac{3}{8}$ inches and can be used with any style of canopy or with fixtures with flat backs.

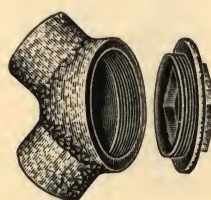
Packed in neat strong boxes, 100 in a standard package. Weight, standard package, 24 pounds.

Price, No. 20.....each \$.50



Type L Bendhicks

A short elbow, weatherproof fitting for making a short bend in a conduit system. Is fitted with a weatherproof capped opening to allow an easy passage of wires around the sharp angle. No locknuts or bushings required to make it weatherproof. Thoroughly galvanized throughout and treated inside with insulating enamel.

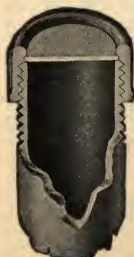


Cat. No.	Size Conduit Inches	Unit Pkg.	Std. Pkg.	Price Each
L- $\frac{1}{2}$	$\frac{1}{2}$	20	100	\$.60
L- $\frac{3}{4}$	$\frac{3}{4}$	10	100	.70
L-1	1	10	50	.90
L- $1\frac{1}{4}$	$1\frac{1}{4}$	6	24	2.50
L- $1\frac{1}{2}$	$1\frac{1}{2}$	4	20	3.00
L-2	2	2	10	6.00
L- $2\frac{1}{2}$	$2\frac{1}{2}$	1	4	8.00
L-3	3	1	4	10.00
L- $3\frac{1}{2}$	$3\frac{1}{2}$	2	2	16.00
L-4	4	1	2	18.00

T & B Pennies

Nothing can drop into the pipe if pennies are used.

T & B Pennies are better than wood plugs and much cheaper.



THE PENNY IN PLACE



THE PENNY

Cat. No.	Size For $\frac{1}{2}$ -inch Pipe	Std. Pkg.	Wt., Lbs. per 100	Price per 100
815	$\frac{3}{4}$ " " " "	1000	4	\$.40
816	" " " " "	500	5	.60
817	" 1 " " " "	250	8	.80
818	" $1\frac{1}{4}$ " " " "	250	15	1.20
819	" $1\frac{1}{2}$ " " " "	100	20	1.60
820	" 2 " " " "	100	30	2.00
821	" $2\frac{1}{2}$ " " " "	100	41	3.00
822	" 3 " " " "	100	63	4.00



Galvanized Conduit Straps



Cat. No.	Size Inches	No. to Pound	Price per Lb.	Cat. No.	Size Inches	No. to Pound	Price per Lb.
209	3/8	49	\$.25	214	1 1/2	13	\$.25
210	1/2	32	.25	215	2	11	.25
211	3/4	20	.25	216	2 1/2	9	.25
212	1	17	.25	217	3	8	.25
213	1 1/4	16	.25	...	...	...	...

V.V. One Screw Malleable Iron Pipe Clamps

Black enamel finish is furnished unless otherwise specified. Hot dipped galvanized finish furnished at same price as black enamel.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
0	3/8	100	10	\$4.00
1	1/2	100	10	5.00
2	3/4	100	15	6.00
3	1	100	18	8.00
4	1 1/4	50	12	14.00
5	1 1/2	50	18	20.00
6	2	20	15	40.00
7	2 1/2	10	12	60.00
8	3	10	16	80.00
9	3 1/2	5	12	120.00
10	4	5	15	130.00



V. V. Type 6 Fittings

Galvanized or black enamel finish.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
611	1/2	100	35	\$.25
621	3/4	75	30	.35
631	1	50	35	.50
641	1 1/4	40	35	.65
651	1 1/2	20	25	.90
661	2	15	30	1.20
671	2 1/2	10	30	1.65
681	3	5	25	4.00
691	3 1/2	5	30	5.00
6101	4	5	40	7.00
6111	4 1/2	1	25	16.00
6121	5	1	25	18.00



T & B One Hole Steel Pipe Straps

Illustration shows the 1/2 to 3 1/2-inch type.

Made of extra heavy steel. Ribbed to give stiffness and strength.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. per 100 Pcs.	Price per 100	Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. per 100 Pcs.	Price per 100
*65	1/4	500	2 1/2	\$2.00	72	1 1/4	100	12	\$7.00
64	3/8	500	2 1/2	3.00	73	1 1/2	9	13	8.00
66	1/2	500	3 1/4	3.50	74	2	50	17	14.00
†68	1 1/2 A	500	3 1/4	3.50	75	2 1/2	50	52	25.00
69	3/4	200	4	4.00	76	3	50	59	45.00
71	1	100	8 1/2	6.00	77	3 1/2	50	70	80.00

*Designed for armored conductors.

†Designed for 1/2 armored flexible conduit.

T & B Ground Clamps

Made from No. 16 B. & S. gauge pure copper strap, 3/4-inch wide. Lugs integral and tinned.



Cat. No.	Fits Conduit Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
951	3/8 to 1	100	9	\$20.00
952	3/8 " 2	50	13	25.00
953	3/8 " 3	25	17	30.00

Shawmut Ground Clamps

Made of stamped copper formed to fit the contour of the pipe, and gives a perfect contact. Made of two pieces with a single bolt and is readily installed with the aid of a screw driver or a pair of pliers.



Nos. 3660-3668

Cat. No.	Size Inches	Std. Pkg.	Price Each
3660	3/8	100	\$.24
3661	1/2	100	.24
3662	3/4	100	.28
3663	1	50	.34
3664	1 1/4	50	.40
3665	1 1/2	50	.46
3666	2	25	.52
3667	2 1/2	25	.58
3668	3	15	.64

Packed in a neat pasteboard box, containing a standard package.

Type C Shawmut Ground Clamps



In addition to the Shawmut Clamp there is a Type C Clamp for pipes larger than 3 inches. This clamp is made of a single copper strap with an adjustable lug, having a wire hole for No. 4 wire. This clamp is also fully approved by the National Fire Protection Association.

Nos. 3669-3671

Cat. No.	Size Inches	Std. Pkg.	Price Each
3669	4	15	\$.76
3670	5	15	.88
3671	6	15	1.00
*3672	3/8	100	.24

*For grounding flexible armored conductor.

Samples and discounts on application.

Prices subject to change without notice.

Gee Vee Type A Ground Clamps



Note the spur made in band for insuring permanent contact.

The tinned clamp with no iron in it. Made of standard size copper. For use in bonding conduits, or grounding circuits.

No bottomless hole in which wire is soldered.

Cat. No.	Size In.	Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Price Each
5014	BX	100	\$.24	5212	2 1/2	25	\$.58
5038	3/8	100	.24	5003	3	25	.64
5012	1/2	100	.24	5312	3 1/2	10	.80
5034	3/4	100	.28	5004	4	10	.88
5001	1	75	.34	5412	4 1/2	5	1.00
5114	1 1/4	75	.40	5005	5	5	1.10
5112	1 1/2	50	.46	5006	6	5	1.20
5002	2	50	.52	....	...	..	....

Gee Vee Type S Ground Clamps

For bonding conduits and grounding circuits.

A clamp that holds the wire next to the pipe.

Made of aluminum.

Wires cannot slip, being held in place by groove in clamp.

Will hold No. 14 to, and including, No. 4 wire.



Cat. No.	Size In.	Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Price Each
8014	BX	100	\$.12	8114	1 1/4	75	\$.18
8038	3/8	100	.12	8112	1 1/2	50	.24
8012	1/2	100	.12	8002	2	50	.30
8034	3/4	100	.14	8212	2 1/2	25	.38
8001	1	75	.16	8003	3	25	.46



T & B Adjustable Conduit Hangers



Type A fits beams $2\frac{3}{4}$ to $7\frac{3}{8}$ inches; Type B fits beams 7 to 12 inches.

Adjustable and will support any number of conduits from one to eight, which may run at any angle with the beams and close against the beam, or far enough below to permit a second line of conduits to be run above. Clamps are made of stamped steel.

duits to be run above. Clamps Complete with Support as Below

	TYPE A				TYPE B			
	Std. Pkg.	Cat. No.	Wt., Lbs. per 100	Price per 100	Cat. No.	Wt., Lbs. per 100	Price per 100	
1- $\frac{1}{2}$ inch	100	710	45	\$34.00	760	74	\$49.00	
1- $\frac{3}{4}$ "	100	711	46	38.00	761	75	53.00	
1-1 "	50	712	48	44.00	762	77	59.00	
1-1 $\frac{1}{4}$ "	50	713	51	48.00	763	80	63.00	
1-1 $\frac{1}{2}$ "	25	714	52	52.00	764	81	67.00	
1-2 "	25	715	56	60.00	765	85	75.00	
1-2 $\frac{1}{2}$ "	25	716	59	68.00	766	88	83.00	
1-3 "	25	717	63	78.00	767	92	93.00	
2- $\frac{1}{2}$ "	100	718	58	38.00	768	87	53.00	
2- $\frac{3}{4}$ "	100	719	65	42.00	769	94	57.00	
2-1 "	50	720	72	46.00	770	101	61.00	
2-1 $\frac{1}{4}$ "	50	721	80	50.00	771	109	65.00	
2-1 $\frac{1}{2}$ "	25	722	97	54.00	772	126	69.00	
2-2 "	25	723	112	62.00	773	141	77.00	
2-2 $\frac{1}{4}$ "	25	724	111	62.00	774	140	77.00	
2-2 $\frac{1}{2}$ "	25	725	127	70.00	775	160	85.00	
2-2 $\frac{3}{4}$ "	25	726	90	50.00	776	119	65.00	
2-3 "	25	727	105	58.00	777	134	73.00	
2-3 $\frac{1}{4}$ "	25	728	104	58.00	778	133	73.00	
2-3 $\frac{1}{2}$ "	25	729	119	66.00	779	148	81.00	
2-4 "	25	730	73	48.00	780	102	63.00	
2-4 $\frac{1}{4}$ "	25	731	85	52.00	781	114	67.00	
2-4 $\frac{1}{2}$ "	25	732	95	56.00	782	124	71.00	

Supports

Cat. No.	For Conduit	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
733	1- $\frac{1}{2}$ inch	100	12	\$8.00
734	1- $\frac{3}{4}$ "	100	13	10.00
735	1-1 "	50	15	16.00
736	1-1 $\frac{1}{4}$ "	50	18	20.00
737	1-1 $\frac{1}{2}$ "	25	19	24.00
738	1-2 "	25	23	32.00
739	1-2 $\frac{1}{2}$ "	25	26	40.00
740	1-3 "	25	30	50.00
741	2- $\frac{1}{2}$ "	100	25	12.00
742	2- $\frac{3}{4}$ "	100	39	18.00
743	2-1 "	50	32	14.00
744	2-1 $\frac{1}{4}$ "	50	47	22.00
745	2-1 $\frac{1}{2}$ "	25	40	20.00
746	2-2 "	25	52	24.00
747	2-2 $\frac{1}{2}$ "	25	62	28.00

Clamps Only, Including Bolts

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
700	Type A Fits Flange $2\frac{3}{4}$ to $7\frac{3}{8}$ Inches	100	33	\$30.00
701	" B " " 7 " 12 " "	100	62	45.00
703	Special Bolts	100	6	5.00

P & S Conduit Clamps



Cat. No.	Size Inches	Price per 100
1401	$\frac{1}{2}$	\$5.00
1402	$\frac{3}{4}$	7.00
1403	1	9.00
1404	1 $\frac{1}{4}$	11.00
1405	1 $\frac{1}{2}$	13.00

Tempered Steel Fish Tapes

Regularly furnished in any assortment of lengths, from 100 to 500 feet, put up in coils.

Cat. No.	Size Inches	Price per 100 Ft.
1000	$\frac{1}{8}$ x.060	\$2.00
1001	$\frac{3}{16}$ x.060	3.00
1002	$\frac{1}{4}$ x.060	4.00



T & B Entrance Caps



May be used either on vertical or horizontal service entrance and outside conduit installations.

Screws burred so they cannot fall out.

Porcelain heavy, not likely to crack.

Heavy cast iron, galvanized; will not rust.

All porcelain insulators have three wire holes.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1525	$\frac{1}{2}$	50	77	\$50.00
1526	$\frac{3}{4}$	50	104	65.00
1527	1	25	172	80.00
1528	1 $\frac{1}{4}$	10	250	200.00
1529	1 $\frac{1}{2}$	5	360	225.00

T & B Entrance Caps

Screws burred so they cannot fall out.

Porcelain heavy, not likely to crack.

Heavy cast iron, galvanized.

Will not rust out.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
1430	$\frac{1}{2}$	50	80	\$50.00
1431	$\frac{3}{4}$	50	80	65.00

Grabler Pipe Hangers with Extension Bars and Lag Screws

Fitted with lag screws to thread into wooden beam.

Size Inches	Price Each	Size Inches	Price Each
$\frac{1}{2}$	\$.23	3	\$.43
$\frac{3}{4}$	.23	3 $\frac{1}{2}$	.47
1	.25	4	.51
1 $\frac{1}{4}$	.27	4 $\frac{1}{2}$	.54
1 $\frac{1}{2}$	.31	5	.57
2	.33	6	.63
2 $\frac{1}{2}$	.35	...	...

Extension Bars

Furnished in 10-foot lengths.

For Pipe...inches $\frac{1}{2}$ to $1\frac{1}{2}$ 2 to 3 $3\frac{1}{2}$ to 6

Price...per foot \$.08 .09 .10

Lag Screws with Bolts

For Pipe...inches $\frac{1}{2}$ to $1\frac{1}{2}$ 2 to 3 $3\frac{1}{2}$ to 6

Price...each \$.10 .12 .14

Grabler Pipe Hangers with Extension Bars and Beam Plates

Pipe hanger is fitted with a beam plate. It is used extensively for finished interior work. Extra extension bars are furnished in 10-foot lengths, with holes $\frac{1}{2}$ inch apart; 4 inches of bar furnished with each hanger.

Size Inches	Price Each	Size Inches	Price Each
$\frac{1}{2}$	\$.23	3	\$.35
$\frac{3}{4}$	.23	3 $\frac{1}{2}$	.43
1	.24	4	.47
1 $\frac{1}{4}$	.25	4 $\frac{1}{2}$	.49
1 $\frac{1}{2}$	.27	5	.51
2	.31	6	.57
2 $\frac{1}{2}$	.33	...	...

Beam Plates with Bolts

For Pipe in. $\frac{1}{2}$ to $1\frac{1}{2}$ 2 to 3 $3\frac{1}{2}$ to 6

Price...each \$.09 .11 .14



**J. C. P. Type FM Service Entrance Caplets****For Two or Three Wires**

Type FM caplets for service entrance are simple and practical. They provide a separate insulated hole for each wire, without the use of bushings. Consist of only two parts; same fitting for two or three wires; no bushings to drop or break, or bother threading the wires through. They are made entirely of strong insulated material. Small and neat in appearance.

Size Inches	Carton	Std. Pkg.	Price Each
1/2	10	100	\$.45
3/4	10	100	.60
1	10	150	.80

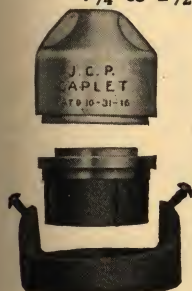
J. C. P. Type AB Caplets**1/2 to 1-inch****For Two or Three Wires**

Type AB caplets have a threaded ferrule that screws on over the porcelain and holds the porcelain on the conduit. This ferrule is made of brass and protects the porcelain from breakage.

These caplets are easily put on the conduit. The locknuts cannot drop out and no special style of nut is required.



Size Inches	Std. Pkg.	Price Each	Size Inches	Std. Pkg.	Price Each
1/2	100	\$.20	1	50	\$.40
3/4	100	.30			

J. C. P. Type AB Caplets**1/4 to 2 1/2-inch with Cast Metal Yoke****For Two or Three Wires**

Made with a bushing that screws on the end of the conduit. A metal yoke sets over the bushing and clamps the porcelain insulator to the bushing with two screws, drawing the two parts firmly together. When the screws are loosened the bushing will swivel in the yoke and can be screwed on the conduit without turning either the porcelain or the yoke. This makes it very easy to install in close places.

Size Inches	Std. Pkg.	Price Each	Size Inches	Std. Pkg.	Price Each
1 1/4	25	\$.90	2	10	\$2.10
1 1/2	20	1.30	2 1/2	5	4.80

Type MLB Midget Series Powerlets

Elbow is designed for bringing conduit into buildings at the foot of down runs of service pipe, and at the same time to provide a weather-proof fitting, without using rubber gaskets.

It permits easy access to the wires which facilitates pulling or fishing the wires through the conduit. Cover is locked into position, without screws, by driving it home under the overlapping hood. Removed by striking the projecting boss on top of the cover.

Makes a weatherproof bottom entrance fitting.



Cat. No.	Size Conduit Inches	Std. Pkg.	Price Each
3451	1/2	100	\$.60
3452	3/4	100	.70
3453	1	50	.90

Gee Vee Pipe Caps

For use on the end of conduit containing lead covered or signal wire. Plenty of room for the wires. Galvanized with brass screws. Can be applied after the wires are drawn in and connected up.



Cat. No.	Size Inches	Unit Pkg.	Wt. Lbs. Unit Pkg.	Price Each
1012	1/2	10	4	\$.32
1034	3/4	10	5 5/8	.40
1001	1	10	10	.62
1114	1 1/4	6	8 1/4	.74
1112	1 1/2	6	11 1/4	1.04
1002	2	1	3	1.52
1212	2 1/2	1	5	2.72
1003	3	1	8	3.68
1312	3 1/2	1	9	6.16
1004	4	1	10 1/2	7.28
1005	5*	1	41	29.00
1006	6	1	34 1/8	24.00

*Consists of 6-inch cap and bushing to reduce to 5-inch.

Gee Vee Universal Conduit Caps

For outside or inside work. Insulators, unless otherwise specified, are furnished for three wires. Insulators, for fittings above 1 inch can be furnished with any number of holes.

Cat. No.	Size Inches	Unit Pkg.	Wt. Unit Pkg., Lbs.	Price Each
3012	1/2	5	4 1/2	\$.65
3034	3/4	5	10	.80
3001	1	5	12	1.20
3114	1 1/4	2	4 1/2	2.00
3112	1 1/2	2	9	2.75
3002	2	1	8	4.00
3212	2 1/2	1	10	7.00
3003	3	1	12	10.00
3312	3 1/2	1	24 3/4	15.00
3004	4	1	28 1/4	20.00

**Gee Vee Form A Terminals**

For capping the ends of conduit, inside work. Fitting is split, does not have to turn around to install. Two part insulator. Insulators, unless otherwise specified, are furnished for three wires, with seal to close unused hole when used with less than three wires. Insulators for 1/2, 3/4, 1 and 1 1/4-inch are made of approved moulded insulation; above 1 1/4 inches of porcelain. Galvanized finish. Insulators, for fittings above 1 inch in size can be furnished with any number of holes.

Cat. No.	Size In.	Unit Pkg.	Wt. Lbs. Unit Pkg.	Price Each	Cat. No.	Size In.	Unit Pkg.	Wt. Lbs. Unit Pkg.	Price Each
10012	1/2	10	8 1/8	\$0.32	10112	1 1/2	2	6 5/8	\$1.20
10034	3/4	10	8 5/8	.35	10002	2	2	10	2.10
10001	1	5	4 1/4	.63	10212	2 1/2	1	7	4.00
10114	1 1/4	2	5 3/4	.92	10003	3	1	11 3/8	6.50

Gee Vee Service Caps

A threaded conduit cap with two part insulator. Insulators, unless otherwise specified, are furnished for three wires, with seal to close unused hole when used with less than three wires. For fittings above 1-inch size, can be furnished with any number of holes. For 1/2, 3/4, 1 and 1 1/4-inch they are made of approved moulded insulation; above 1 1/4 inches of porcelain. Can be applied after wires are connected by cutting out reduced section of frame with hacksaw. Galvanized finish.



Cat. No.	Size In.	Unit Pkg.	Wt. Lbs. Unit Pkg.	Price Each	Cat. No.	Size In.	Unit Pkg.	Wt. Lbs. Unit Pkg.	Price Each
6012	1/2	10	7 5/8	\$.45	6002	2	2	11 5/8	\$3.00
6034	3/4	10	8 5/8	.50	6212	2 1/2	1	9	4.50
6001	1	5	9 1/8	.90	6003	3	1	10 1/2	7.00
6114	1 1/4	2	6 3/8	1.50	6312	3 1/2	1	20	16.00
6112	1 1/2	2	8 1/8	2.00	6004	4	1	28	22.00



Type MFB Midget Series Powerlets



on a straight pull. Furnished complete with covers.

A small fitting having the outlet at a slight angle from the vertical position which facilitates drawing through the wires. When used in the vertical position in outside work it is necessary to put a 45-degree bend in the conduit to prevent water from entering the pipe. Made only up to 1-inch. For larger sizes it is important to have a removable cap so the wires can be drawn through the conduit

Size Conduit Inches	Std. Pkg.	Two HOLES Cat. No.	Price Each	Three HOLES Cat. No.	Price Each	Four HOLES Cat. No.	Price Each
1/2	100	3572	\$.30	3573	\$.30	3574	\$.30
3/4	100	3582	.45	3583	.45	3584	.45
1	50	3592	.60	3593	.60	3594	.60

Type MA Midget Style Powerlet End Fittings

With Porcelain Covers Assembled



No. 3003

Cast iron fittings with black enameled finish. Approved by Underwriters. Large pipe hub with deep cut threads and a well rounded shoulder for conduit stop. All iron screws are galvanized. Galvanized finish not carried in stock but furnished to order.

Adapted for use at meter loops, motor terminals and starting boxes and in any combination of open and conduit wiring work. The larger sizes of Type MA fittings have a chamber space below the cover for bending and positioning the cables.

With Two-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3002	1/2	100	\$.20	3162	1 1/2	10	\$.90
3052	3/4	100	.30	3172	2	5	1.75
3102	1	50	.40	3182	2 1/2	5	3.30
3152	1 1/4	20	.65	3192	3	5	5.65

With Three-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3003	1/2	100	\$.20	3163	1 1/2	10	\$.90
3053	3/4	100	.30	3173	2	5	1.75
3103	1	50	.40	3183	2 1/2	5	3.30
3153	1 1/4	50	.65	3193	3	5	5.65

With Four-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3004	1/2	100	\$.20	3104	1	50	\$.40
3054	3/4	100	.30				

Type MF Midget Style Powerlet Entrance Fittings

With Porcelain Covers Assembled



No. 3203

Designed with a weatherproof removable cap that permits the wires to be drawn through the pipe on a straight pull and distributed before passing through the porcelain cover.

These fittings are light in weight and neat in appearance and may be used for either horizontal or vertical work.

With Two-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3202	1/2	100	\$.50	3242	1 1/2	10	\$2.25
3212	3/4	100	.65	3252	2	5	4.00
3222	1	50	.80	3262	2 1/2	5	6.50
3232	1 1/4	20	2.00	3272	3	5	9.00

With Three-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3203	1/2	100	\$.50	3243	1 1/2	10	\$2.25
3213	3/4	100	.65	3253	2	5	4.00
3223	1	50	.80	3263	2 1/2	5	6.50
3233	1 1/4	20	2.00	3273	3	5	9.00

With Four-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3204	1/2	100	\$.50	3224	1	50	\$.80
3214	3/4	100	.65				

Type MPA Midget Type Powerlet End Fittings

With Plate and Cover Complete



No. 3303

The plate type fitting was designed for use where a small and light end fitting is desired. There is no hub or conduit stop in these fittings but ample threads are provided to insure proper fastening on conduit. Locknuts should be used on all fittings of this construction. Type MPA may be assorted in carton quantities for covers of different number of holes to make standard packages.

With Two-hole Cover

Cat. No.	Size Con., In.	Std. Pkg.	Price Each	Cat. No.	Size Con., In.	Std. Pkg.	Price Each
3302	1/2	100	\$.20	3362	1	50	\$.40
3352	3/4	100	.30				

With Three-hole Cover

Cat. No.	Size Con., In.	Std. Pkg.	Price Each	Cat. No.	Size Con., In.	Std. Pkg.	Price Each
3303	1/2	100	\$.20	3363	1	50	\$.40
3353	3/4	100	.30				

With Four-hole Cover

Cat. No.	Size Con., In.	Std. Pkg.	Price Each	Cat. No.	Size Con., In.	Std. Pkg.	Price Each
3304	1/2	100	\$.20	3364	1	50	\$.40
3354	3/4	100	.30				

Powerlet Interchangeable Porcelain Covers For Types MA, MB and MF Fittings



No. 1522



No. 1523

Midget porcelain covers will be shipped separate from castings when so ordered.

Special covers having larger number of holes with different diameter can be made from a fire and waterproof insulating compound, at a price twice that of porcelain covers of same conduit size.

Two-hole Covers

Cat. No.	Size Con. In.	Diam. Hole In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Diam. Hole In.	Std. Pkg.	Price Each
1502	1/2	5/16	100	\$.06	1542	1 1/2	1 1/8	10	\$.30
1512	3/4	3/8	100	.10	1552	2	1 3/8	5	.40
1522	1	1 1/8	50	.15	1562	2 1/2	1 1/4	5	.50
1532	1 1/4	1 3/8	20	.20	1572	3	1 7/8	5	.65

Three-hole Covers

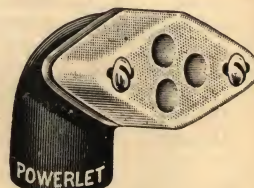
Cat. No.	Size Con. In.	Diam. Hole In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Diam. Hole In.	Std. Pkg.	Price Each
1503	1/2	5/16	100	\$.06	1543	1 1/2	1 1/8	10	\$.30
1513	3/4	3/8	100	.10	1553	2	1 3/8	5	.40
1523	1	1 1/8	50	.15	1563	2 1/2	1 1/4	5	.50
1533	1 1/4	1 3/8	20	.20	1573	3	1 7/8	5	.65

Four-hole Covers

Cat. No.	Size Con. In.	Diam. Hole In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Diam. Hole In.	Std. Pkg.	Price Each
1504	1/2	5/16	100	\$.06	1524	1	1 3/8	50	\$.15
1514	3/4	3/8	100	.10					

Type MB Midget Style Powerlet End Fittings

With Porcelain Covers Assembled



No. 3503

Have smooth well-rounded chamber which makes a complete 90 degree turn but is easy to fish or pull wire through without injury. Sometimes used for entrance fittings but recommended only for inside use.

With Two-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3502	1/2	100	\$.30	3552	3/4	100	\$.45

With Three-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3503	1/2	100	\$.30	3553	3/4	100	\$.45

With Four-hole Cover

Cat. No.	Size Con. In.	Std. Pkg.	Price Each	Cat. No.	Size Con. In.	Std. Pkg.	Price Each
3504	1/2	100	\$.30	3554	3/4	100	\$.45

**Sprague Galvanized Flexible Steel Conduit****Double Strip Type**

Single Strip Type				Double Strip Type			
Inside Diam. In.	Approx. Ft. per Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.	Inside Diam. In.	Approx. Ft. per Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
5/16	100-250	18	\$5.00	5/16	100-250	21	\$5.00
3/8	100-250	29	7.50	3/8	100-250	34	7.50
1/2	100	54	10.00	1/2	100	63	10.00
3/4	50	68	13.00	3/4	50	80	13.00
1	50	114	21.00	1	50	144	21.00
1 1/4	50	138	26.00	1 1/4	50	176	26.00
1 1/2	25-50	182	35.00	1 1/2	25-50	234	35.00
2	25-50	252	45.00	2	25-50	277	45.00
2 1/2	25	280	52.00	...	...	...	...

Type BX Sprague Flexible Steel Armored Conductors
Two-conductor

Continuous lengths furnished up to 1000 feet.

SOLID				STRANDED			
Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.	Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
14BXSS	100-250	35	\$104.00	8BXSS	100-150	80	\$285.00
14BXDS	100-250	39	104.00	6BXSS	100	115	400.00
12BXSS	100-250	40	135.00	4BXSS	100	145	550.00
12BXDS	100-250	42	135.00	*2BXSS	100	155	800.00
10BXSS	100-250	48	185.00	...	...	...	...
10BXDS	100-250	52	185.00	...	...	...	...

*These sizes not carried in stock. Made up specially to order.

Type BX3 Sprague Flexible Steel Armored Conductors
Three-conductor

Continuous lengths furnished up to 1000 feet.

Solid

Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
14BX3	100-250	38	\$138.00
14BX3	100-250	45	138.00
12BX3	100-250	44	170.00
12BX3	100-250	50	170.00
10BX3	100-200	53	235.00
10BX3	100-200	60	235.00

Stranded			
Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
8BX3	100-150	95	\$375.00
6BX3	100	140	500.00
*4BX3	100	150	650.00

*These sizes not carried in stock. Made up specially to order.

Type BXL Sprague Flexible Steel Armored Conductors
Two-conductor—Lead Covered

Continuous lengths furnished up to 1000 feet.

SOLID				STRANDED			
Size	Approx. Ft. in Coil	Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.	Size	Approx. Ft. in Coil	Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
14BXL	100-200	68	\$164.00	8BXL	100-150	136	\$420.00
12BXL	100-200	74	225.00	6BXL	100	205	560.00
10BXL	100-150	108	275.00	*4BXL	100	250	750.00
...	...	...	...	*2BXL	100	267	875.00

*This size made to order only.

Type E Sprague Steel Armored Flexible Cord**Two-conductor—Regular**

Continuous lengths furnished up to 1000 feet.

Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.	Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
18E	100-250	20	\$80.00	14E	100-250	38	\$130.00
16E	100-250	22	95.00	...	...	...	...

Type EM Sprague Steel Armored Flexible Cord**Two-conductor—Reinforced**

Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.	Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
18EM	100-250	25	\$115.00	14EM	100-250	48	\$175.00
16EM	100-250	26	135.00	...	...	...	...

Type BXL3 Flexible Steel Armored Conductors**Three-conductor—Lead Covered**

Continuous lengths furnished up to 1000 feet.

Solid

Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
14BXL3	100-150	75	\$210.00
12BXL3	100-150	96	265.00
10BXL3	100-150	112	325.00

Stranded

Size	Approx. Ft. in Coil	Wt., Lbs. per 100 Ft.	Price per 1000 Ft.
8BXL3	100-150	164	\$500.00
*6BXL3	100	225	800.00
*4BXL3	100	267	1000.00

*This size made to order only.

Sprague Malleable Iron Conduit Couplings
Electro-galvanized**For Flexible Steel Conduit**

Double Strip				Single Strip			
Size of Conduit Inches	Std. Pkg.	Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100	Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
5/16	100	*6160	18	\$8.00	*6160	18	\$8.00
3/8	100	*6062	24	8.50	6161	24	8.50
1/2	100	6162	52	9.25	6162	52	9.25
3/4	50	6063	36	12.00	6163	36	12.00
1	50	6064	60	16.00	6164	49	16.00
1 1/4	50	6065	61	22.00	6165	57	22.00
1 1/2	25	6066	39	30.00	6166	33	30.00
2	25	6067	51	43.00	6167	55	43.00
2 1/2	25	...	...	...	6168	97	75.00

For Flexible and Rigid Steel Conduit

Double Strip				Single Strip			
Size of Conduit Inches	Std. Pkg.	Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100	Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
1/2	100	6072	45	\$12.50	6072	45	\$12.50
3/4	50	6073	37	16.00	6173	33	16.00
1	50	6074	55	21.00	6174	48	21.00
1 1/4	50	6075	54	30.00	6175	71	30.00
1 1/2	25	6076	41	40.00	6176	40	40.00
2	25	6077	52	60.00	6177	50	60.00

*These couplings furnished with only two ears and two secureance bolts.

It is advisable to order one coupling to every coil of conduit.



Sprague Straight Box Connectors

For Armored Conductors and Flexible Steel Conduit

Cat. No.	Size K.O. In.	Adapted for	Std. Pkg.	Price per 100
SP7118	1/2	14D, 12D and 10D Cable, 18E and 16E Cord.	100	\$7.50
SP7119	1/2	8D Cable, 18EM and 16EM Cord, 5/8-inch D.S. and S.S. Conduit.	100	7.50
SP7120	1/2	14BX D.S. and S.S., 12BX D.S. and S.S., 10BX S.S., 14BX3 D.S. and S.S., 12BX3 D.S. and 6D Cable and 14E Cord, 3/8-inch D.S. and S.S. Conduit.	1000	7.50
SP6121	1/2	10BX D.S., 10BX3 D.S. and S.S., 14BX D.S., 12BX D.S., 14BX3 D.S. and 4D Cable and 14EM Cord.	100	9.00
SP6122	1/2	12BX3 D.S., 12BX3 D.S., 10BX3 D.S., 2D, 4DL, 2DL and 10EM Cable.	100	9.00
SP7121	1/2	5/8-inch S.S. Conduit.	100	20.00
SP7123	1/2	8BX D.S., 8BX3 D.S., 10BX D.S., 8BX D.S. and 1D Cable, 1/2-inch D.S. and S.S. Conduit.	100	9.00
SP6124	3/4	6BX D.S., 4BX D.S., 6BX3 D.S., 6BX D.S. and 8BX3 D.S. Cable 3/4-inch D.S. and S.S. Conduit.	100	12.00
SP6125	1	2BX D.S., 4BX3 D.S. and 6BX3 D.S. Cable, 1-inch S.S. Conduit.	100	18.00
SP6126	1 1/4	1BX3 D.S. Cable, 1 1/4-inch S.S. Conduit.	100	25.00
SP6127	1 1/2	1 1/2-inch S.S. Conduit.	50	35.00
SP6128	2	2 " S.S. " "	50	55.00
SP6129	2 1/2	2 1/2 " S.S. " "	25	75.00
SP6132	1	2BX3 D.S., 4BX D.S., 2BX D.S., 4BX3 D.S., and 2BX3 D.S. Cable, 1-inch D.S. Conduit.	100	18.00
SP6133	1 1/4	1BX D.S. and 1BX3 D.S. Cable, 1 1/4-inch D.S. Conduit.	100	25.00
SP6133 1/2	1 1/2	1 1/2-inch D.S. Conduit.	50	35.00
SP6134	2	2 " D.S. Conduit.	50	55.00

Sprague Straight Panel Box Connectors

For Armored Conductors and Flexible Steel Conduit



Cat. No.	Size K.O. In.	Adapted for	Std. Pkg.	Price per 100
SP6135	1/2	8BX D.S., 8BX3 D.S., 10BX D.S., 8BX D.S. and 1D Cable, 1/2-inch D.S. and S.S. Conduit.	100	\$18.00
SP6137	1	2BX3 D.S., 4BX D.S., 2BX D.S., 4BX3 D.S. and 2BX3 D.S. Cable, 1 inch D.S. Conduit.	100	29.00
SP6138 1/2	1 1/2	1 1/2-inch D.S. Conduit.	50	50.00
SP6139	2	2-inch D.S. Conduit.	50	65.00
SP6140	1/2	14BX D.S. and S.S., 12BX D.S. and S.S., 10BX S.S., 14BX3 D.S. and S.S., 12BX3 D.S. and 6D Cable and 14E Cord, 3/8-inch D.S. and S.S. Conduit.	100	13.00
SP6141	1/2	10BX D.S., 10BX3 D.S. and S.S., 14BX D.S., 12BX D.S., 14BX3 D.S. and 4D Cable and 14EM Cord.	100	18.00
SP6142	1/2	12BX3 D.S., 12BX3 D.S., 10BX3 D.S. 2D, 4DL, 2DL and 10EM Cable.	100	18.00
SP6144	3/4	6BX D.S., 4BX D.S., 6BX3 D.S., 6BX D.S., and 8BX3 D.S. Cable, 3/4-inch D.S. and S.S. Conduit.	100	25.00
SP6145	1	2BX D.S., 4BX3 D.S. and 6BX3 D.S. Cable, 1-inch S.S. Conduit.	100	30.00
SP6146	1 1/4	1BX3 D.S., 1BX D.S., 1BX D.S., 3 D.S. Cable, 1 1/4 D.S. and S.S. Conduit.	100	35.00
SP6147	1 1/2	1 1/2-inch S.S. Conduit.	50	50.00
SP6148	2	2-inch S.S. Conduit.	50	70.00
SP6149	2 1/2	2 1/2-inch S.S. Conduit.	25	85.00

Sprague Angle Box Connectors

For Armored Conductors and Flexible Steel Conduit



45° Connector



90° Connector

45° Angle Box Connectors

Cat. No.	Size K.O. In.	Adapted for	Std. Pkg.	Price per 100
6190	1/2	14BX S.S. and D.S., 12BX S.S. and D.S., 10BX S.S., 14BX3 S.S. and D.S., 12BX3 S.S. Cable, 14E and 14EM Cord.	100	\$12.00
6191	1/2	8BX, 8BX3, 10BX, 8BX, 10-BXL3 Cable, 1/2-inch S.S. and D.S. Conduit.	100	15.00
6194	3/4	6BX, 8BX3 Cable, 3/4-inch S.S. and D.S. Conduit.	50	25.00
90° Angle Box Connectors				
*7122	1/2	5/8-inch S.S. Conduit.	100	20.00
6192	1/2	14BX S.S. and D.S., 12BX S.S. and D.S., 10BX S.S., 14BX3 S.S. and D.S., 12BX3 S.S. Cable, 14E and EM Cord.	100	16.00
6193	1/2	8BX, 8BX3, 10BX, 8BX, 10-BXL3 Cable, 1/2-inch S.S. and D.S. Conduit.	100	20.00
6194A	3/4	6BX, 8BX3 Cable, 3/4-inch S.S. and D.S. Conduit.	50	40.00
6195	1	1: S.S. and D.S. Conduit.	10	60.00
6196	1 1/4	1 1/4-inch S.S. and D.S. Conduit.	10	75.00
6197	1 1/2	1 1/2 " S.S. " D.S. " "	10	100.00
6180	2	2 " S.S. " D.S. " "	5	150.00
6181	2 1/2	2 1/2 " S.S. Conduit.	5	200.00

*This is a Duplex Y Connector.

Sprague Panel Box and Angle Adapters

For Armored Conductors and Flexible Steel Conduit



Panel Box Adapter



90° Angle Adapter

Panel Box Adapters

With this adapter, box connector is readily convertible to panel box connector.

Cat. No.	Adapted for	Unit Pkg.	Std. Pkg.	Price per 100
7139	For all Box Connectors for 1/2-inch KO.	..	100	\$9.00
7140	For all Box Connectors for 3/4-inch KO.	..	100	13.00

90° Angle Adapters

With this adapter, box connector is readily convertible to 90° angle connectors.

Cat. No.	Adapted for	Unit Pkg.	Std. Pkg.	Price per 100
7142	For all Box Connectors for 1/2-inch KO.	..	100	\$12.00
7143	For all Box Connectors for 3/4-inch KO.	..	100	28.00
7144	For all Box Connectors for 1-inch KO.	..	10	42.00

Sprague Brass Terminal Bushings

Cat. No.	Adapted for	Std. Pkg.	Wt., Lbs.	Price per 100
6080	14BX, 12BX, 14BX3 Cable and 14E Cord.	200	8	\$2.50
6080 1/2	14SS Cable.	200	8	2.50
6081	12BX3 and 10BX Cable.	200	7	4.75
6082	10BX3 Cable.	200	7	4.75
6083	8BX " "	100	7	6.25
6084	8BX3 " "	100	7	6.75



Table Showing Connectors Suitable for Various Sizes of Armored Conductors and Flexible Conduit

For Armored Conductors

Size Armored Conductor	Box Connector	CATALOGUE NUMBERS			
		Panel Box Connector	45° Angle Connector	90° Angle Connector	
14BX (S.S.)	7120	6140	6190	6192	
14BX (D.S.)	7120	6140	6190	6192	
12BX (S.S.)	7120	6140	6190	6192	
12BX (D.S.)	7120	6140	6190	6192	
10BX (S.S.)	7120	6140	6190	6192	
10BX (D.S.)	6121	6141	.....	Adapter	
8BX	7123	6135	6191	6193	
6BX	6124	6144	6194	6194A	
4BX	6124	6144	.....	Adapter	
14BX3 (S.S.)	7120	6140	6190	6192	
14BX3 (D.S.)	7120	6140	6190	6192	
12BX3 (S.S.)	7120	6140	6190	6192	
12BX3 (D.S.)	6122	6142	.....	Adapter	
10BX3 (S.S.)	6121	6141	.....	"
10BX3 (D.S.)	6122	6142	.....	"
8BX3	7123	6135	6191	6193	
6BX3	6124	6144	.....	Adapter	
14BXL	6121	6141	.....	"
12BXL	6121	6141	.....	"
10BXL	7123	6135	6191	6193	
8BXL	7123	6135	6191	6193	
6BXL	6124	6144	.....	Adapter	
14BXL3	6121	6141	.....	"
12BXL3	6122	6142	.....	"
10BXL3	7123	6135	6191	6193	
8BXL3	6124	6144	6194	6194A	
18E	7118	Adapter	.....	Adapter	
16E	7118	"	.....	"
14E	7120	6140	6190	6192	
18EM	7119	Adapter	.....	Adapter	
16EM	7119	"	.....	"
14EM	6121	6140	6190	6192	

For Flexible Conduit

Size Flexible Conduit Inches	Kind of Strip	CATALOGUE NUMBERS			
		Box Connector	Panel Box Connector	45° Angle Connector	90° Angle Connector
5/16	DS	7119	Adapter	.....	Adapter
3/8	DS	7120	6140	.....	"
1/2	DS	7123	6135	6191	6193
3/4	DS	6124	6144	6194	6194A
1	DS	6132	6137	.....	6195
1 1/4	DS	6133	6146	.....	6196
1 1/2	DS	6133 1/2	6138 1/2	.....	6197
2	DS	6134	6139	.....	6180
5/16	SS	7119	Adapter	.....	Adapter
3/8	SS	7120	6140	.....	"
1/2	SS	7123	6135	6191	6193
3/4	SS	6124	6144	6194	6194A
1	SS	6125	6145	.....	6195
1 1/4	SS	6126	6146	.....	6196
1 1/2	SS	6127	6147	.....	6197
2	SS	6128	6148	.....	6180
2 1/2	SS	6129	6149	.....	6181

Where the word adapter appears in this table, one of the Sprague Adapters listed on another page should be used as a straight connector.

Wireduct Non-metallic Flexible Conduit



Wireduct has a smooth, clean interior raceway that insures easy long-distance fishing and which will not break down and obstruct the wire if wireduct is kinked or otherwise damaged in the installation. It cuts cleanly and without burrs, nor will the tightly braided outer jacket spread out at cut ends and obstruct fishing the material through the close openings or other rough places in walls or partitions.

The braided jacket has a four-fold purpose: furnishes additional mechanical protection; makes the outside surface of Wireduct smooth; prevents the wide spiral cracks when the tube is bent; takes up the strain of fishing, preventing twisting and so guarantees the constancy of the raceway.

Wireduct is finished with special compounds which will not become too hard in winter or too soft in summer.

Inside Diam., In.	Feet to Coil	Wt., Lbs. per 1000 Ft.	Price per Ft.	Inside Diam., In.	Feet to Coil	Wt., Lbs. per 1000 Ft.	Price per Ft.
7/32	250	230	\$.05 1/2	1	100	44	\$.25
1/4	250	320	.06	1 1/4	100	44	.33
3/8	250	410	.09	1 1/2	Odd Lengths	92	.40
1/2	200	420	.12	1 3/4	"	115	.47
5/8	200	430	.15	2	"	125	.55
3/4	150	450	.18	2 1/4	"	180	.65

Wireduct Cartons



Every coil of Wireduct Guaranteed Loom up to 1 1/2-inch size is packed in a separate, double-faced corrugated paper box. By cutting out the small circle printed on the sides of each box, as much or as little Wireduct as is needed may be pulled off from the inside of the coil.

Jiffy Loom Clamps

For holding flexible conduit in switch boxes, outlet boxes and all 5/8-in. and 7/8-in. knockouts.



Cat. No.	Size K. O. In.	Size Tubing, In.	Std. Pkg.	Price per 100
1	5/8	1/4 and 5/8	100	\$1.80
2	7/8	1/4 " 5/8	100	3.00
3	5/8	7/8	100	1.80
4	7/8	3/2	100	3.00

Blake Insulated Staples



No. 1

No. 3

No. 5

No. 6

Illustrations Are Actual Size

The fibre insulation of Blake Insulated Staples is of double thickness where it contacts with the wires and of sufficient length to safely insure against injuring the wires in driving the staples over them, even if they be driven most carelessly. At no point can the wires come in contact with an uninsulated part of the staple. The staples may be driven over two or more wires without danger of causing a short circuit or even a ground.

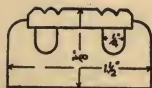
Nos. 1 and 5 are for use in hardwood; Nos. 3 and 6 are for general use. Nos. 1 and 3 are for single wire and twisted pair; Nos. 5 and 6 for extra heavy pair wire and twisted 3-wire.

Packed 100 in a small container—10 small containers (1000 staples) per carton.

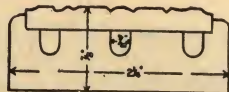
Cat. No.	CARTON			STANDARD CASE			PRICE	
	Quantity	WEIGHT Lbs.	Oz.	Quantity	Wt. Lbs.		per 100	per 1000
1	1000	1	10	25000	42		\$.25	\$1.60
3	1000	2	1	25000	50		.25	1.60
5	1000	2	4	25000	54		.30	1.80
6	1000	2	7	25000	59		.30	1.80



Standard Wood Moldings



Two-wire



Three-wire

Two-wire

Cat. No.	Size Groove Inches	For Size Wire	Price, per 1000 Feet Plain	Painted
3	1/4	12 to 18	\$40.00	\$45.00
5	3/8	5 " 18	55.00	65.00
7	1/2	2 " 4	68.00	88.00

Three-wire

4	1/4	12 to 18	\$53.00	\$65.00
6	3/8	5 " 10	85.00	96.00
8	1/2	2 " 4	105.00	120.00

Paiste Plain Style Moldtaps

Schedule J



The wires are carried right through, leaving enough slack to loop over the bottom part where they are bared to set under contact screws. The molding does not have to be cut as the Moldtaps are set on top. The branch wires start off from other set screws, and finally a neat cover is placed over this contact button covering the wires and set screws.

Cat. No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
4090	2-Wire Single Branch.....	10	250	119	\$.30
4091	3 " " ".....	5	100	105	.45
4092	3- to 2-Wire Single Branch.....	5	100	84	.40
4093	3 " 2 " Double ".....	5	100	102	.60
4094	2-Wire Double Branch.....	5	100	65	.45

Paiste Molding Connectors

Schedule J



No. 4099

These connectors are to be used for straight through work where heretofore a splice has been necessary to continue the running of the wire.

Cat. No.	No. Wires	Std. Pkg.	Carton	Wt., Lbs.	Price Each
4099	2	250	10	81	\$.25
4100	3	100	4	55	.35

Hollow Fixture Blocks

Cat. No.	Diameter Inches	Price per 100
219	3	\$6.00
220	4	9.00
221	5	12.00
222	6	15.00



No. 18 Milonite Perfection Insulated Nails



Recommended for installing two-conductor or three-conductor twisted insulated wire.

They are easy to handle and install and prevent short circuiting.

Furnished in light oak, dark oak, dark green and black.

Made with shank 1/2, 5/8, and 7/8 inch long.

Price, No. 18, All Lengths.....per 1000 \$2.50

Leather Nail Heads



Required where porcelain insulators or porcelain cleats are installed by the use of nails, as they provide protection to the insulator or cleat when the nail is driven in.

Packed in boxes which weigh one pound each and contain about 1000 nail heads.

Price.....per box \$1.00

Wiremold Conduit and Fittings

General Description

Wiremold Conduit is made in both two and four-wire sizes. It is furnished in ten-foot lengths and is designed for surface wiring exclusively.

The base and capping is permanently assembled at the factory, hence conductors cannot be laid into it as in similar materials, but must be fished in all cases.



Fig. 1

The base is galvanized and its capping is finished with special, high-grade enamel of neutral tint particularly selected to blend with colorings of average walls and ceilings.

Wiremold Conduit and its accompanying fittings require no special tools of any kind for assembly; only a screw driver, hack saw and No. 600 Wiremold Bender are needed for installation.

Like rigid conduit, Wiremold is furnished with one coupling to each length, as shown in Fig. 1.



Fig. 2

Fig. 3

Fig. 4

To install Wiremold, push the coupling forward until screw hole is clear and then fasten to wall with a No. 8 flat head screw as shown in Fig. 2. Slip the next length over edges of coupling as shown in Fig. 3 and close up as in



Fig. 5



Fig. 6

Fig. 4. Base plates of all Wiremold Fittings are provided with coupling tongues similar to the tongue shown in broken end view of a fitting base plate in Fig. 5. Wiremold Conduit is connected with Wiremold Fittings by simply shoving the ribs in the upper side edges over the coupling tongues as shown in Fig. 6.

Wiremold Conduit



No. 700 Wiremold Conduit System for surface wiring is designed for use in large installations requiring four-wire circuits, such as factories, railroad buildings, lofts, warehouses, department stores, office building, hospitals, school buildings and the like.

No. 500 is for smaller installations requiring two-wire circuits.

Wiremold conduit is rolled from high grade sheet steel and is so finished that the portion which lays against the surface wired over is galvanized, while the section visible after installation is finished in a neutral tone enamel that will blend with any color scheme and act as a ground coat for graining or staining. Also covers with one coat of flat white.

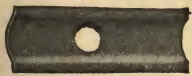
Furnished in standard ten-foot lengths with one coupling to each length, like pipe.

Wiremold Conduit and its accompanying fittings require no special tools of any kind for assembly and only screw driver, hack saw, 32 tooth, flexible back type, and No. 600 Wiremold Bender for installation.

Cat. No.	Size	Unit Pkg.	Wt., Lbs. Unit Pkg.	Price per 100 Ft.
500	2-wire	100 Ft.	33	\$12.00
700	4-wire	100 "	36	15.00



No. 5701 Wiremold Base Couplings



One No. 5701 Base Coupling is furnished with each length of No. 501 and No. 700 Wiremold Conduit, but extra couplings must be used where short lengths are installed.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5701	50	500	9	\$.03

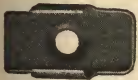
Wiremold Conduit Bushings

For use wherever Wiremold enters fittings. The bushing is slipped into the end of Wiremold and should be installed in all cases before molding is assembled with fittings. It is locked tightly in place by the base plate of fittings.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
502	50	500	5	\$.03
702	50	500	2	.03

No. 5703 Wiremold Supporting Clips



Designed to support Wiremold in the middle of lengths. It is secured to the wall with a No. 8 flat head wood screw and Wiremold snapped into it. The screw hole is slotted to allow clip to be adjusted.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5703	50	500	8	\$.03

Wiremold Supporting Straps



No. 504



No. 704

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
504	50	500	5	\$.03
704	50	500	16	.03

No. 505 Wiremold One-hole Supporting Straps



No. 505 is to support No. 500 Wiremold in the middle of lengths where runs are made on concrete or tile surfaces which are hard to drill for supporting screws.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
505	5	100	1	\$.03

No. 506 Wiremold Connection Covers

No. 506 is designed to cover cracks between adjoining lengths of No. 500 Wiremold which have not been cut square enough to make a good appearing joint.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
506	50	500	5	\$.03

No. 5709 Wiremold Ground Couplings



No. 5709 is a standard, screwless ground coupling for Wiremold Conduit. In installing it, first solder the ground wire into its lug and then push the coupling over the base into the grooved edges of No. 500 or No. 700 Wiremold Conduit.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5709	5	100	2	\$.04

Wiremold Elbows

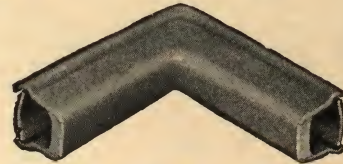


No. 5711



No. 512

Cat. No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5711	90° Flat	10	100	12	\$.18
512	45° "	5	50	4	.20



No. 5717

5717	External	10	100	17	\$.20
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No. 5718

5718	Internal	10	100	11	\$.18
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Wiremold Plain Tees and Crosses



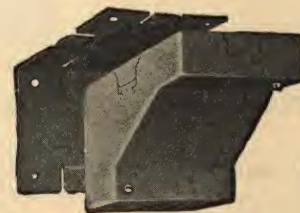
No. 515



No. 516

Cat. No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
515	Tee	5	100	16	\$.24
516	Cross	5	50	11	.28

No. 5719 Wiremold Corner Boxes



Designed to provide in a single fitting, with abundant splice room, for the many corner junctions and other combinations, such as, twisted elbow, twisted tees, twisted cross, that can be made with Wiremold Conduit.

Consists of a base plate provided with four holes for No. 8 flat head supporting screws and two knockouts for 1/2-inch pipe or BX connector, also four tongues on side edges and one tongue in back center for slip joint connections with both No. 500 or No. 700 Wiremold Conduit, and a cover piece. The cover-piece has four double twistouts making it possible to use this fitting with both No. 500 or No. 700 Wiremold Conduit. Note that this fitting is reversible.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5719	5	50	21	\$.31



No. 521 Wiremold One-piece Rosettes

No. 521 is an all steel rosette in which drop cord must be spliced to circuit wires as no contact block is provided for the purpose.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
521	5	100	21	\$.28

No. 522 Wiremold Two-piece Rosettes



No. 522 is an all steel rosette and is equipped with contact block having terminals for tapping cords from circuit wires.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
522	5	100	26	\$.48

No. 523 Wiremold Fixture Rosettes

No. 523 is an all steel two-piece rosette and is equipped with a high grade insulating bushing which is tapped for $\frac{1}{8}$ -inch fixture stems.



It is made in $\frac{1}{8}$ -inch only.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
523	5	50	15	\$.63

No. 524 Wiremold Fixture Rosettes



Steel rosette with contact block for taps, fibre insulation washer to hang heavy drop cords and special chase nipple with locknut to hang $\frac{3}{8}$ or $\frac{1}{2}$ -inch fixtures.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
524	5	50	17	\$.59

No. 525 Wiremold Receptacle Bases

All steel, equipped with ready-to-wire tap block and standard fluted or wrinkled ring, so that any standard Schedule B device designed to fit fluted or wrinkled socket caps may be mounted upon it.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
525	5	100	30	\$.50

No. 526 Wiremold Keyless Receptacles



All steel keyless standard Edison type, equipped with special, easy-to-wire keyless socket interior and designed for use at lighting outlets or at any point where a screw type receptacle is desired.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
526	5	100	31	\$.79

No. 527 Wiremold Attachment Plugs

Made up of a steel housing in which is mounted a standard, easy-to-wire, 10-amp. attachment plug base with double T slots for plug caps having either tandem or parallel blades.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
527	5	100	31	\$.91

No. 5728 Wiremold Utility Boxes



Has a base with two holes for No. 8 flat head supporting screws and a knockout for $\frac{1}{2}$ -inch pipe or BX connector, also four tongues for slip joint connections with both Nos. 500 and 700 Wiremold Conduit. In addition the cover has a $\frac{1}{8}$ -inch knockout in which there is a $\frac{1}{2}$ -inch flanged hole with a plug for use as a junction box and by pushing out the plug for use as a junction box and by pushing the plug may be used as a rosette for drop cords.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5728	10	100	39	\$.24

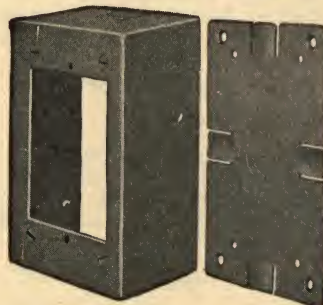
No. 5729 Wiremold Condulet Type Utility Boxes

Has a base with two holes for No. 8 flat head supporting screws and knockout for $\frac{1}{2}$ -inch pipe or BX connector, also four tongues on ends and sides for slip joint connections with both No. 500 and No. 700 Wiremold Conduit. The cover piece has four double twistouts for use with both No. 500 and No. 700 Wiremold Conduit, and an opening which will take all standard $\frac{1}{2}$ -inch condulet covers.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5729	10	100	35	\$.23

No. 5748 Wiremold Surface Type Switch Boxes



Cosists of a base plate with four holes for No. 8 flat heads supporting screws and a knockout for $\frac{1}{2}$ -inch pipe or BX connector, also four tongues for slip joint connections, with both Nos. 500 and 700 Wiremold Conduit, and a cover piece.

An ideal fitting for use with Call or Signal systems.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5748	1	20	13	\$.63

No. 5749 Wiremold Flush Switch and Receptacle Boxes



Made in single gang only. Consists of a switch box with 4 holes for No. 8 flat head supporting screw and four tongues for slip joint connections with both Nos. 500 and 700 Wiremold Conduit, and a cover piece.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5749	1	20	13	\$.79



Wiremold Flush Switch and Receptacle Adapters



For use in picking up and extending a circuit in both Nos. 500 and 700 Wiremold Conduit from existing outlets.

Adapters are not complete fittings in themselves but are designed to mount over the old switch box found in a wall at existing switch and receptacle outlets.

Cat. No.	No. in Gang	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5751	1	1	20	9	\$.65
5752	2	1	10	7	1.09
5753	3	1	10	9	1.15

No. 5733 Wiremold Outlet Boxes

Outside dimensions: diameter, 3 inches; height, 1 inch. Device screw spacing: $1\frac{1}{2}$ inches, $1\frac{1}{2}$ inches, $1\frac{1}{2}$ inches centers.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5733	5	100	27	\$.51



No. 5731 Wiremold Blank Covers



For use with No. 5733 Box when used as a pull or junction box or for hanging light pendant fixtures with large stems, as it is provided with a $\frac{1}{2}$ -inch pipe knockout.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5731	5	100	5	\$.11

No. 532 Wiremold Outlet Boxes

Designed as a base for a standard five-ampere snap or toggle switch but may also be used as a junction or pull box and for mounting back wired fittings with $2\frac{1}{2}$ -inch base.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
532	5	100	17	\$.33



No. 5736 Wiremold Blank Covers



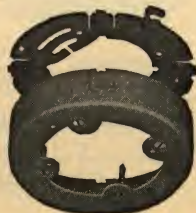
A 4-inch blank cover for use with boxes 5737, 5738 and 5739 where they are used as pull or junction boxes or for hanging $\frac{1}{2}$ -inch fixtures or drop cords.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5736	5	100	13	\$.14

No. 5737 Wiremold Extension Boxes

Primarily designed for use in extending Nos. 500 and 700 Wiremold Conduit from existing outlets, its base plate having four tongues for slip joint connections, and special slots for attaching to $3\frac{1}{4}$ and 4-inch boxes.

Both base and cover are split so that it may be installed by simply dropping canopy.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5737	5	50	28	\$.61

No. 5738 Wiremold Fixture Boxes



Primarily designed for use in hanging fixtures but is also equipped with screw holes in its cover to permit mounting any device which may be hung on a $3\frac{1}{4}$ -inch or 4-inch box. The base has four tongues for slip joint connections with Wiremold Conduit and the cover is provided with abundant splice room and has four double twistouts for use with both Nos. 500 and 700 Wiremold Conduit. With the use of No. 5736

Wiremold Blank Cover this fitting may be used as a junction box. Outside dimensions: diameter, $4\frac{3}{4}$ inches; height, 1 inch. Fixture and device screw spacings on $2\frac{3}{4}$ and $3\frac{1}{2}$ -inch centers. Base has four holes for fixture studs and five knockouts for $\frac{1}{2}$ -inch pipe or BX connectors.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5738	5	50	30	\$.49

Wiremold Box Connectors

Nos. 5781 and 5781-A are for use to couple Nos. 500 and 700 Wiremold Conduit to fittings having knockouts for $\frac{1}{2}$ -inch and $\frac{3}{4}$ -inch pipe.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5781	5	50	3	\$.25
5781-A	5	50	4	.25

Wiremold Pipe Couplings



Nos. 5782 and 5782-A are for use in coupling Nos. 500 and 700 Wiremold Conduit to $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch pipe.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5782	5	50	4	\$.38
5782-A	5	50	7	.38

No. 5785 Wiremold Combination Connectors

Cat. No.	Wt., Lbs. Std. Pkg.	Price Each
5785	8	\$.45



Unit pkg., 5; std. pkg. 50.

No. 588 Wiremold Open Work Couplings



No. 588 is designed for use where a tap is in coming out to meter, fractional horse power motors and similar devices.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
588	5	20	4	\$.29

No. 701 Wiremold Reducing Connectors

No. 701 four-wire connector is used to connect No. 700 Wiremold with No. 500 Wiremold fittings.



Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
701	10	100	7	\$.16

No. 600 Wiremold Benders



A light hand tool that bends or offsets Wiremold on close, easily finished radii.

Handle not furnished.

Use about two feet of $\frac{1}{2}$ -inch pipe.

Cat. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
600	1	10	25	\$2.00



No. SP51151 Sprague 4-inch Square Outlet Boxes



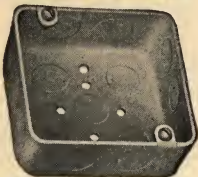
Ten outlets in sides and five in bottom for 1/2-inch conduit and one twist-out in two opposite sides for 1/2-inch gas pipe, or eight in sides and four in bottom for 3/4-inch conduit and one in bottom for 1/2-inch gas pipe in center and one knockout-twistout in two opposite sides for 1/2-inch gas pipe.

Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers). Combination gas and electric box.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
*SP51151	1 1/2	100	84	\$32.00

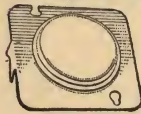
No. SP52151 Sprague 4-inch Square Outlet Boxes

Ten outlets in sides and five in bottom for 1/2-inch conduit or eight in sides and four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch gas pipe. Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers). Straight electric box.



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52151	1 1/2	100	84	\$32.00

No. SP51C4 Sprague Covers for 4-inch Square Outlet Boxes

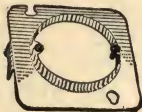


Raised closed, with gas pipe flange.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP51C4	..	100	49	\$20.00

No. SP51C5 Sprague Covers for 4-inch Square Outlet Boxes

Raised canopy type, 2 7/8-inch diameter opening ears D. & T., with 2 3/4-inch screw spacing, with gas pipe flange.



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
*SP51C5	..	100	38	\$22.00

No. SP51C55 Sprague Covers for 4-inch Square Outlet Boxes



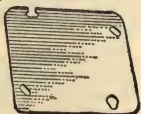
Raised canopy type, 2 7/8-inch diameter opening, without ears, with gas pipe flange.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP51C55	..	100	38	\$21.00

No. SP52C1 Sprague Covers for 4-inch Square Outlet Boxes

Flat closed.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C1	..	100	39	\$13.00



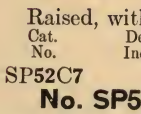
No. SP52C3 Sprague Covers for 4-inch Square Outlet Boxes



Raised canopy type, 2 7/8-inch diameter opening ears D. & T., with 2 3/4-inch screw spacing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
*SP52C3	..	100	33	\$17.00

No. SP52C7 Sprague Covers for 4-inch Square Outlet Boxes



Raised, with 1/2-inch knockout.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C7	..	100	44	\$16.00



No. SP52C12 Sprague Covers for 4-inch Square Outlet Boxes



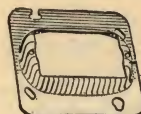
Raised pendent type, 3/8-inch eyelet bushing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C12	..	100	48	\$17.00

*These covers will accommodate all covers of 3 1/4-inch octagon box. Cat. No. SP24151.

**Not carried in stock. Made to special order only.

No. SP52C13 Sprague Covers for 4-inch Outlet Boxes



For Flush Devices

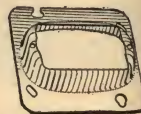
Raised for single flush device, opening 2 15/16 inches.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C13	1 1/2	100	33	\$21.00

No. SP52C14 Sprague Covers for 4-inch Outlet Boxes

For Flush Devices
Raised for single flush device, opening 2 5/8 x 1 5/8 inches.

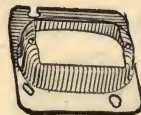
Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C14	3/4	100	38	\$22.00



No. SP52C15 Sprague Covers for 4-inch Outlet Boxes

For Flush Devices
Raised for single flush device, opening 2 15/16 inches.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C15	1	100	44	\$23.00



No. SP52C17 Sprague Covers for 4-inch Outlet Boxes

For Flush Devices
Raised for two flush devices, opening 2 7/8 x 3 3/8 inches.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C17	1 1/2	100	26	\$26.00



No. SP52C18 Sprague Covers for 4-inch Outlet Boxes

For Flush Devices
Raised for two flush devices, opening 2 7/8 x 3 3/8 inches.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C18	3/4	100	33	\$27.00



No. SP52C28 Sprague Covers for 4-inch Outlet Boxes

For Surface Devices
Flat for all surface mounted devices, with screw centers, 1/8 to 1 1/8 inches.

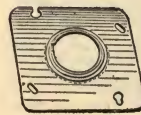
Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C28	..	100	32	\$16.00



No. SP52C35 Sprague Covers for 4-inch Outlet Boxes

Raised for sign receptacles, screw ring type, 1 1/2-inch diameter opening for single protruding lug on porcelain.

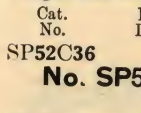
Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C35	..	100	35	\$16.00



No. SP52C36 Sprague Covers for 4-inch Outlet Boxes

Raised for sign receptacles, screw ring type, 1 1/2-inch diameter opening, bent under tongue for 5-notched porcelain.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C36	..	100	35	\$16.00



No. SP52C39 Sprague Covers for 4-inch Outlet Boxes

For Fluted Devices

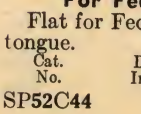
Flat for all fluted devices.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C39	..	100	37	\$40.00

No. SP52C44 Sprague Covers for 4-inch Outlet Boxes

For Federal Sign Receptacles
Flat for Federal sign receptacles, intruding tongue.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C44	..	100	38	\$14.00





No. SP52C48 Sprague Covers for 4-inch Outlet Boxes



Raised canopy type, 2 7/8-inch diameter opening, without ears.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C48	..	100	33	\$16.00

No. SP52C57 Sprague Covers for 4-inch Outlet Boxes

Raised, with 2x1-inch opening for French fixtures.



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C57	..	100	33	\$45.00

No. SP52C63 Sprague Covers for 4-inch Outlet Boxes



Raised, with oval opening for Elexits.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C63	..	100	40	\$42.00

No. SP52C67 Sprague Covers for 4-inch Outlet Boxes

Raised cover with Uno shade holder attached.



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP52C67	..	100	44	\$50.00

No. SP54151 Sprague 4-inch Octagon Outlet Boxes



Four outlets in sides and five in bottom for 1/2-inch conduit or four in sides and four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch gas pipe. Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54151	1 1/2	100	70	\$28.00

No. SP54171 Sprague 4-inch Octagon Outlet Boxes

Four outlets in sides and five in bottom for 1/2-inch conduit or four in sides and four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch gas pipe.

Can also be furnished with four outlets in sides for 1-inch and five in bottom for 1/2-inch conduit.

Four 1/4-inch clearance holes for fixture stud (1 1/2-inch centers).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54171	2 1/8	100	93	\$38.00

No. SP54155 Sprague 4-inch Octagon Outlet Boxes

For Loom and Conduit

Four outlets in side, and five in bottom for 1/2-inch conduit and four in rounded side, two in bottom for 3/8-inch circular loom. Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers).



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54155	1 1/2	100	70	\$30.00

No. SP55151 Sprague 4-inch Extension Rings



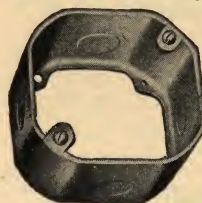
For 4-inch Octagon Boxes

Four outlets in sides for 1/2-inch or four in sides for 3/4-inch conduit.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP55151	1 1/2	100	55	\$31.00

No. SP55171 Sprague 4-inch Extension Rings

For 4-inch Octagon Boxes



Four outlets in sides for 1/2-inch or four in sides for 3/4-inch conduits.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP55171	2 1/8	100	71	\$41.00

No. SP56111 Sprague 4-inch Round Shallow Outlet Boxes

For Rigid Conduit

Five outlets in bottom for 1/2-inch or four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch conduit. With ears D. & T. Four 1/4-inch clearance holes for standard fixture stud. (1 1/2-inch centers.)



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56111	1 1/2	100	47	\$19.00

No. SP56112 Sprague 4-inch Round Shallow Outlet Boxes

For Rigid Conduit



Five outlets in bottom for 1/2-inch conduit, or four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch conduit. Without ears. Four 1/4-inch clearance holes for standard fixture stud. (1 1/2-inch centers.)

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56112	1 1/2	100	45	\$15.00

No. SP56121 Sprague 4-inch Round Shallow Outlet Boxes

For Rigid Conduit

Five outlets in bottom for 1/2-inch conduit, or four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch conduit. With ears D. & T. Four 1/4-inch clearance holes for standard fixture stud. (1 1/2-inch centers.)

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56121	3/4	100	55	\$21.00

No. SP56122 Sprague 4-inch Round Shallow Outlet Boxes

For Rigid Conduit

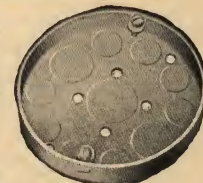
Five outlets in bottom for 1/2-inch conduit, or four in bottom for 3/4-inch conduit and one in center bottom for 1/2-inch conduit. Without ears. Four 1/4-inch clearance holes for standard fixture stud. (1 1/2-inch centers.)

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56122	3/4	100	53	\$16.00

No. SP56115 Sprague 4-inch Round Shallow Outlet Boxes

For Loom and Conduit

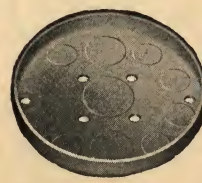
Two outlets in bottom for 1/2-inch conduit and one in bottom for 3/4-inch conduit and eight in bottom for 3/8-inch circular loom. With ears D. & T. Four 1/4-inch clearance holes for standard fixture stud. (1 1/2-inch centers.)



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56115	1 1/2	100	47	\$19.00

No. SP56116 Sprague 4-inch Round Shallow Outlet Boxes

For Loom and Conduit



Two outlets in bottom for 1/2-inch conduit and one in bottom for 3/4-inch conduit and eight in bottom for 3/8-inch circular loom. Without ears. Four 1/4-inch clearance holes for standard fixture stud. (1 1/2-inch centers.)

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56116	1 1/2	100	45	\$15.00



No. SP56125 Sprague 4-inch Round Shallow Outlet Boxes For Loom and Conduit

Two outlets in bottom for $\frac{1}{2}$ -inch conduit and one in bottom for $\frac{3}{4}$ -inch conduit and eight in bottom for $\frac{3}{8}$ -inch circular loom. With ears D. & T. Four $\frac{1}{4}$ -inch clearance holes for standard fixture stud. ($1\frac{1}{2}$ -inch centers.)

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56125	$\frac{3}{4}$	100	55	\$20.00

No. SP56126 Sprague 4-inch Round Shallow Outlet Boxes For Loom and Conduit

Two outlets in bottom for $\frac{1}{2}$ -inch conduit and one in bottom for $\frac{3}{4}$ -inch conduit and eight in bottom for $\frac{3}{8}$ -inch circular loom. Without ears. Four $\frac{1}{4}$ -inch clearance holes for standard fixture stud. ($1\frac{1}{2}$ -inch centers.)

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56126	$\frac{3}{4}$	100	53	\$16.00

No. SP54C3 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised canopy type, $2\frac{7}{8}$ -inch diameter opening, ears D. & T., $2\frac{3}{4}$ -inch screw spacing. This cover will accommodate all covers of $3\frac{1}{4}$ -inch octagon box Cat. No. SP24151.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C3	..	100	30	\$16.00

No. SP54C6 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, with $\frac{1}{2}$ -inch knockout.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C6	..	100	33	\$13.00

No. SP54C7 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised, with $\frac{1}{2}$ -inch knockout.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C7	..	100	43	\$15.00

No. SP54C9 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised pendent type, $\frac{1}{8}$ -inch eyelet bushing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C9	..	100	40	\$16.00

No. SP54C12 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised pendent type, $\frac{3}{8}$ -inch eyelet bushing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C12	..	100	40	\$16.00

No. SP54C22 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, with $\frac{1}{8}$ -inch male nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C22	..	100	37	\$25.00

No. SP54C23 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, with $\frac{1}{8}$ -inch female nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C23	..	100	37	\$25.00

No. SP5 C24 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, with $\frac{3}{8}$ -inch male nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C24	..	100	37	\$25.00

No. SP54C25 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, with $\frac{3}{8}$ -inch female nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C25	..	100	37	\$25.00

No. SP54C28 Sprague Covers for 4-inch Octagon and Round Outlet Boxes For Surface Devices

Flat, for all surface mounted devices with screw centers from $\frac{7}{8}$ to $1\frac{1}{8}$ inches.

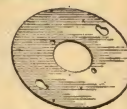


Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C28	..	100	26	\$15.00

No. SP54C33 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

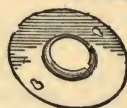
Flat, standard AMES 2-screw sign receptacle (opening $1\frac{1}{8}$ -inch diameter, $1\frac{1}{8}$ s.c.).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C33	..	100	30	\$13.00



No. SP54C35 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised, screw ring sign receptacles (grooved opening, $1\frac{1}{2}$ -inch diameter).

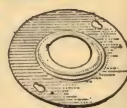


Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C35	..	100	30	\$15.00

No. SP54C36 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised, screw ring sign receptacles (bent tongue, opening $1\frac{1}{2}$ -inch diameter).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C36	..	100	30	\$15.00



No. SP54C37 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, flush floor receptacles, $1\frac{1}{2}$ -inch diameter opening grooved, $1\frac{1}{8}$ -inch s.c.

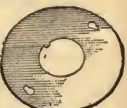


Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C37	..	100	34	\$13.00

No. SP54C44 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

For Federal Sign Receptacles
Flat, for Federal sign receptacles, intruding tongue.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C44	..	100	29	\$13.00



No. SP54C48 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised canopy type, $2\frac{7}{8}$ -inch diameter opening, without ears.



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C48	..	100	30	\$15.00

No. SP54C49 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Flat, for Benjamin sign receptacles, 2-screw (special dimensions).

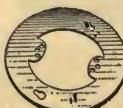
Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C49	..	100	30	\$13.00



No. SP54C53 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

For Surface Devices

Flat, for surface mounted devices, with $2\frac{1}{4}$ -inch, $2\frac{1}{2}$ -inch, or $2\frac{3}{4}$ -inch screw spacings.



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C53	..	100	25	\$22.00

No. SP54C54 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

For Concealed Snap Switches

Raised, for concealed snap switches, diameter of snap switch cover, $2\frac{1}{4}$ inches; maximum, $2\frac{3}{4}$ inches.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C54	..	100	39	\$25.00





No. SP54C63 Sprague Covers for 4-inch Octagon and Round Outlet Boxes



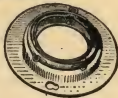
Raised, with oval opening for elextis.

Cat. No.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C63	..	100	27	\$40.00

No. SP54C67 Sprague Covers for 4-inch Octagon and Round Outlet Boxes

Raised cover with Uno shade holder attached.

Cat. No.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54C67	..	100	43	\$50.00



No. SP24151 Sprague 3 1/4-inch Octagon Outlet Boxes



Four outlets in sides and one in bottom for 1/2-inch conduit, or four in sides for 3/4-inch conduit and one in bottom for 1/2-inch conduit.

Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers).

Cat. No.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24151	1 1/2	100	56	\$24.00

No. SP26121 Sprague 3 1/4-inch Round Shallow Outlet Boxes

For Metallic Conduit

Three outlets in bottom for 1/2-inch conduit. With ears D. & T.

Cat. No.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP26121	3/4	100	42	\$20.00



No. SP26125 Sprague 3 1/4-inch Round Shallow Outlet Boxes

For Loom and Conduit

Two outlets in bottom for 1/2-inch conduit and one in bottom for 3/4-inch conduit and four in bottom for 3/8-inch circular loom. With ears D. & T. Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP26125	3/4	100	42	\$18.00



No. SP26126 Sprague 3 1/4-inch Round Shallow Outlet Boxes

For Loom and Conduit

Two outlets in bottom for 1/2-inch conduit and one in bottom for 3/4-inch conduit and four in bottom for 3/8-inch circular loom. Without ears. Four 1/4-inch clearance holes for standard fixture stud (1 1/2-inch centers).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP26126	3/4	100	40	\$16.00



No. SP24C6 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes



Flat, with 1/2-inch knockout.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
*SP24C6	..	200	42	\$10.00

No. SP24C7 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Raised, with 1/2-inch knockout.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
*SP24C7	..	200	46	\$12.00



No. SP24C9 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Raised pendent type, 1/8-inch eyelet bushing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
*SP24C9	..	200	44	\$13.00



*Will fit Covers Cat. Nos. SP51C5, SP52C3, SP54C3, SP-72C3.

No. SP24C12 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes



Raised pendent type, 3/8-inch eyelet bushing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C12	..	200	44	\$13.00

No. SP24C22 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Flat, with 1/8-inch male nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C22	..	100	25	\$22.00



No. SP24C23 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Flat, with 1/8-inch female nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C23	..	100	25	\$22.00



No. SP24C24 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Flat with 3/8-inch male nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C24	..	100	25	\$22.00



No. SP24C25 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Flat, with 3/8-inch female nipple.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C25	..	100	25	\$22.00



No. SP24C28 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

For Surface Devices

Flat, for all surface mounted devices, with screw centers from 1/8 inch to 1 1/8 inches.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C28	..	200	28	\$12.00



No. SP24C33 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Flat, for AMES sign receptacles, 2-screw standard dimensions.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C33	..	200	36	\$10.00



No. SP24C35 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Raised, screw ring sign receptacles, grooved opening, 1 1/2-inch diameter.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C35	..	200	36	\$12.00



No. SP24C36 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

Raised, for screw ring sign receptacles, bent tongue opening, 1 1/2-inch diameter.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C36	..	200	36	\$12.00

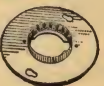


No. SP24C39 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

For Standard Fluted Devices

Flat, for all standard fluted devices.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C39	..	100	19	\$40.00



No. SP24C44 Sprague Covers for 3 1/4-inch Octagon and Round Outlet Boxes

For Federal Sign Receptacles

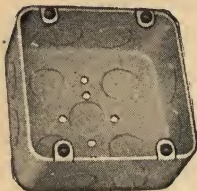
Flat, for Federal sign receptacles, intruding tongue.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP24C44	..	200	34	\$10.00





No. SP72151 Sprague 4 $\frac{1}{16}$ -inch Square Outlet Boxes

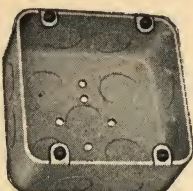


Eight outlets in sides, five in bottom for $\frac{1}{2}$ -inch conduit or eight in sides, four in bottom for $\frac{3}{4}$ -inch conduit and one in center bottom for $\frac{1}{2}$ -inch gas pipe. Four $\frac{1}{4}$ -inch clearance holes for standard fixture studs (1 $\frac{1}{2}$ -inch centers).

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72151	1 $\frac{1}{2}$	100	109	\$50.00

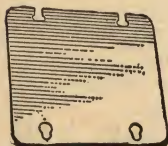
No. SP72171 Sprague 4 $\frac{1}{16}$ -inch Square Outlet Boxes

Eight outlets in sides, five in bottom for $\frac{1}{2}$ -inch conduit or eight in sides, four in bottom for $\frac{3}{4}$ -inch conduit and one in center bottom for $\frac{1}{2}$ -inch gas pipe. Can also be furnished with eight outlets in sides for 1-inch and five in bottom for $\frac{1}{2}$ -inch conduit. Four $\frac{1}{4}$ -inch clearance holes for standard fixture studs (1 $\frac{1}{2}$ -inch centers).



Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72171	2 $\frac{1}{8}$	100	131	\$60.00

No. SP72C1 Sprague Covers for 4 $\frac{1}{16}$ -inch Square Outlet Boxes



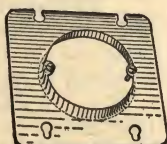
Flat closed.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72C1	..	100	52	\$18.00

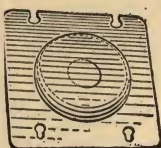
No. SP72C3 Sprague Covers for 4 $\frac{1}{16}$ -inch Square Outlet Boxes

Raised canopy type, 2 $\frac{7}{8}$ -inch diameter opening, ears D. & T., with 2 $\frac{3}{4}$ -inch screw spacing. Will accommodate all covers of 3 $\frac{1}{4}$ -inch octagon box, Cat. No. SP24151.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72C3	..	100	49	\$22.00



No. SP72C7 Sprague Covers for 4 $\frac{1}{16}$ -inch Square Outlet Boxes



Raised with $\frac{1}{2}$ -inch knockout.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72C7	..	100	61	\$21.00

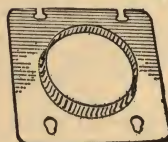
No. SP72C12 Sprague Covers for 4 $\frac{1}{16}$ -inch Square Outlet Boxes

Raised pendent type, $\frac{3}{8}$ -inch eyelet bushing.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72C12	..	100	63	\$22.00



No. SP72C48 Sprague Covers for 4 $\frac{1}{16}$ -inch Square Outlet Boxes



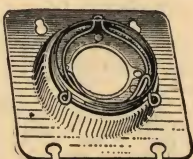
Raised canopy type, without ears, 2 $\frac{7}{8}$ -inch diameter opening.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72C48	..	100	49	\$21.00

No. SP72C67 Sprague Covers for 4 $\frac{1}{16}$ -inch Square Outlet Boxes

Raised cover with Uno shade holder.

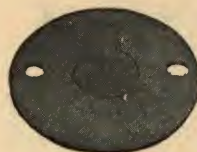
Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP72C67	..	100	61	\$50.00



No. SP16711 Sprague Outlet and Beam Plates

Flat, plate 2 $\frac{1}{2}$ -inch diameter, one or two $\frac{1}{2}$ -inch knockouts.

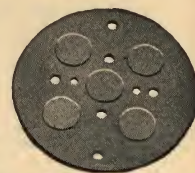
Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP16711	100	11	\$10.00



No. SP56711 Sprague Outlet and Beam Plates

Flat, plate 4 $\frac{1}{16}$ -inch diameter, five $\frac{1}{2}$ -inch knockouts or four $\frac{3}{4}$ -inch and one $\frac{1}{2}$ -inch knockout in center, with 4 $\frac{1}{4}$ -inch clearance holes for standard fixture stud, 1 $\frac{1}{2}$ -inch centers.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP56711	100	36	\$14.00



No. SP68C57 Sprague Outlet and Beam Plates

Flat, plate for French fixture work, 4 $\frac{1}{4}$ inches long by 2 $\frac{7}{8}$ inches wide three $\frac{1}{2}$ -inch knockouts.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP68C57	100	25	\$10.00



No. SP58361 Sprague Utility Boxes For Switches and Flush Devices

Four inches long, 2 $\frac{5}{8}$ inches wide, three knockouts in each side, one in each end and one in bottom for $\frac{1}{2}$ -inch conduit or three in each side for $\frac{1}{2}$ -inch, one in each end and one in bottom for $\frac{3}{4}$ -inch conduit.

Cat. No.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP58361	1 $\frac{7}{8}$	100	70	\$30.00



Sprague Gang Boxes

For All Standard Flush Devices

For $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch Conduit

Cat. No.	No. of Devices	Wt., Lbs. per 100	Price per 100	Cat. No.	No. of Devices	Wt., Lbs. per 100	Price per 100
SP6732	2	138	\$60.00	SP6736	6	288	\$310.00
SP6733	3	169	\$90.00	SP6737	7	331	\$470.00
SP6734	4	200	\$120.00	SP6738	8	369	\$500.00
SP6735	5	250	\$160.00	SP6739	9	394	\$550.00

Sprague Gang Box Covers For All Standard Flush Devices

Furnished with extra slotted screw holes plugged, so as to fit the next smaller size box. For instance, Cat. No. SP6755 (4-gang) will fit both Cat. No. SP6733 (3-gang) and Cat. No. SP6734 (4-gang) boxes.



Cat. No.	No. of Devices	No. of Gangs	Wt., Lbs. per 100	Price per 100
SP6751	2	2	50	\$30.00
SP6753	3	3	63	\$45.00
SP6755	4	4	75	\$60.00
SP6757	5	5	94	\$75.00
SP6759	6	6	106	\$145.00
SP6761	7	7	119	\$260.00
SP6763	8	8	131	\$290.00
SP6765	9	9	144	\$330.00
SP6767	10	9	144	\$360.00

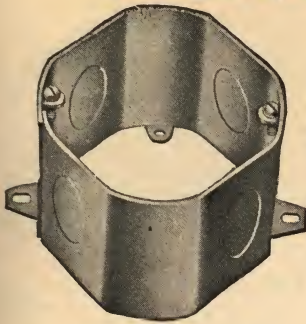
Knockouts

Cat. No.	1/2-INCH KNOCKOUTS			3/4-INCH KNOCKOUTS		
	Each Side	Each End	Bottom	Each Side	Each End	*Bottom
SP6732	5	2	5	4	2	4
SP6733	6	2	10	6	2	8
SP6734	8	2	10	7	2	8
SP6735	8	2	10	8	2	8
SP6736	10	2	10	8	2	8
SP6737	10	2	10	10	2	8
SP6738	12	2	10	12	2	8
SP6739	14	2	10	12	2	8

*In addition to these outlets one $\frac{1}{2}$ -inch is provided, centrally located, in the bottom of Cat. No. SP6732 box and two $\frac{1}{2}$ -inch outlets are provided in the bottom of boxes Cat. Nos. SP6733 to SP6739 inclusive.



Sprague 4-inch Octagon Concrete Boxes and Plates For Concrete Construction Work



Box



Back Plate

Prices of boxes include back plate. Back plate furnished with 1/2-inch conduit knockout only. Boxes furnished as desired with 1/2-inch, 3/4-inch or 1-inch knockouts.

Boxes are considered standard with all knockouts 1/2-inch or all 3/4-inch. The 1-inch or combination of sizes of knockouts are considered special.

Boxes

Electro-galvanized finish only. One knockout in each of four flat sides. Two outward projection external nail lugs at front. Two pairs internal lugs, inward projecting ears, one pair at back for back plate and one pair at front for standard 4-inch round covers.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price, per 100 Incl. Back Plate
SP54521	1 1/2	100	92	\$30.00
SP54531	2	100	107	30.00
SP54551	3	100	136	40.00
SP54571	4	100	162	50.00
*SP54581	5	100	197	60.00
*SP54591	6	100	227	70.00

*Manufactured on order only.

Back Plates

Electro-galvanized finish only. Three 1/2-inch conduit knockouts. Four 1/4-inch diameter knockouts for standard fixture studs. Two security screw holes for screws to secure plate to back of box.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP54712	..	100	32	\$14.00

No. SP6300 Sprague Small Multilets



Length, 3 3/8 inches; width, 2 1/8 inches. Six outlets, one in each end, one in the bottom and one in one side and two in the other.

Furnished for 1/2-inch or 3/4-inch conduit only.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
SP6300	1 5/8	100	62	\$25.00

Covers for No. SP6300 Multilets

Cat. No.	Description	Std. Pkg.	Wt., Lbs. per 100	Price per 100
SP6303	*Three-wire Porcelain.....	100	64	\$12.00
SP6316	Steel, Plain or Closed.....	200	25	9.00
SP6317	" Closed, with 1/2-inch Conduit Knockout.....	200	26	10.00

No. SP6400 Sprague Large Multilets

Length, 4 1/4 inches; width, 2 1/8 inches. Six outlets, one in each end, one in the bottom and one in one side and two in the other. Furnished for 1/2-inch, 3/4-inch or 1-inch conduit only.

Cat. No.	Depth Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
SP6400	2 3/8	100	90	\$30.00

Covers for No. SP6400 Multilets

Cat. No.	Description	Std. Pkg.	Wt., Lbs. per 100	Price per 100
SP6403	*Three-wire Porcelain.....	100	87	\$13.00
SP6416	Steel, Plain or Closed.....	200	31	12.00
SP6417	" Closed, with 1/2-inch Conduit Knockout.....	200	30	12.00

*Outlets are sealed and can be readily removed.

No. OK10X Outlet Boxes



Straight electric new or old work 3/8-inch iron pipe size female thread, 4 knock-outs at 45 degrees and 4 on back. Can be used for any concealed wiring outlet. Galvanized finish. Std. package, 100. Weight pounds per hundred, 32.

Price, No. OK10X.....	per 100	\$24.00
" " OK10XM.....	"	24.00

No. OK11X Outlet Boxes

Combination new or old work, center hole an easy fit for 3/8-inch gas pipe with set screw for bonding. Has 4 knockouts at 45 degrees and 4 on back. Galvanized finish. Std. package, 100. Weight pounds per hundred, 32.

Price, No. OK11X.....	per 100	\$24.00
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No. OK16X Outlet Boxes



An oval BX type box made especially for side wall outlets where perfect alignment of decorative shallow shield is essential. Length, 4 1/2 inches; width, 2 1/2 inches; depth, 5/8 inch. Galvanized finish. Std. package, 100.

Price, No. OK16X, Wt. 32 Lbs. per 100....	per 100	\$55.00
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No. OK100C Clamps

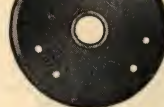
The clamp that has made the OK boxes possible and popular. It has a giant grip on cables but affords absolute protection to the insulated wires within them. Can be used in standard switch boxes. Standard package, 100. Weight pounds per hundred, 3.



Price, No. OK100C.....	per 100	\$5.50
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No. OK12 Loom Type Outlet Plates

Has 3/8-inch iron pipe size female thread. Diameter, 3 1/2 inches; depth, 1/8 inches. Standard package, 100; weight, 26 pounds.

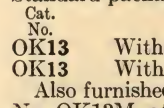


Cat. No.	Description	Price per 100
OK12	Without Clamps.....	\$12.50
OK12	With Clamps.....	16.25

Also furnished with 3/8-inch male stud as No. OK12M, at same prices.

No. OK13 Loom Type Outlet Plates

Has 3/8-inch iron pipe size female thread. Diameter, 3 inches; depth, 1/4-inch. Standard package, 100; weight, 19 pounds.



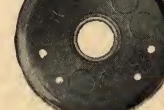
Cat. No.	Description	Price per 100
OK13	Without Clamps.....	\$10.00
OK13	With Clamps.....	13.75

Also furnished with 3/8-inch male stud as No. OK13M, at same prices.



No. OK14 Loom Type Outlet Plates

Has fibre insulation. Black enameled. Diameter, 3 1/2 inches; depth, 1/8-inch. Standard package, 100; weight, 26 pounds.

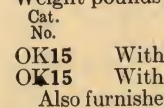


Cat. No.	Description	Price per 100
OK14	Without Clamps.....	\$13.50
OK14	With Clamps.....	17.25

Also furnished with set screws for bonding to gas pipe as No. OK14G, same prices.

No. OK15 Loom Type Outlet Plates

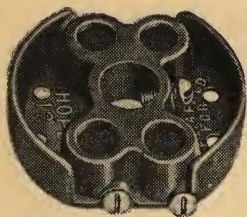
Has fibre insulation. Diameter, 3 inches; depth, 1/4-inch. Black enamel finish. Standard package, 100. Weight pounds per hundred, 19.



Cat. No.	Description	Price per 100
OK15	Without Clamps.....	\$12.50
OK15	With Clamps.....	16.25

Also furnished with set screws for bonding to gas pipe as No. OK15G, same prices.





No. 12 Hope Outlet Boxes

For Flexible Steel Armored Conductors

For $\frac{3}{8}$ and $\frac{1}{2}$ -inch pipe.

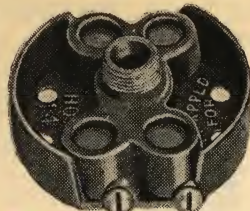
Cat. No.	Std. Pkg.	Price, Each
12	100	\$.13

No. 14 Hope Outlet Boxes

For Flexible Steel Armored Conductors

Stud has hole through center, so bolt or screw may be used.

Cat. No.	Std. Pkg.	Price, Each
14	100	\$.13



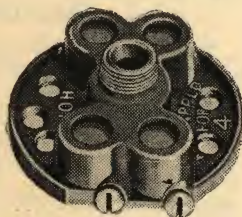
No. 2 Hope Outlet Boxes

For Flexible Steel Armored Conductors

For use on surface.

For $\frac{3}{8}$ -inch pipe.

Cat. No.	Std. Pkg.	Price, Each
2	100	\$.13



No. 4 Hope Outlet Boxes

For Flexible Steel Armored Conductors

For use on surface. Stud has hole through center, so bolt or screw may be used.

Cat. No.	Std. Pkg.	Price, Each
4	100	\$.13

T & B Dead Ground Cable Boxes

For Armored Conductors



No. 556



Nos. 549-548

This box has a simple, yet effective connecting and grounding device, based on the wedge and inclined plane principle, which entirely does away with the multiplicity of parts required in boxes of other makes.

The mechanical and electrical connection between box and armor is perfect. It is easy to install.

Box is galvanized.

Shallow boxes are 3 inches in diameter by $\frac{3}{4}$ inch deep.

Standard package, 100.

Cat. No.	Description	Wt. Lbs. Std. Pkg.	Price per 100
553	Shallow Box for Straight Electric Work, $\frac{3}{8}$ -inch Fixture Stem	50	\$22.00
554	Shallow Box for Comb. Gas and Electric, to Slip $\frac{3}{8}$ -inch Gas Pipe	47	22.00
556	Shallow Box for Comb. Gas and Electric, to Slip $\frac{3}{8}$ -inch Gas Pipe	60	22.00
557	Shallow Box for Comb. Gas and Electric, to Slip $\frac{1}{2}$ -inch Gas Pipe	60	22.00
549	Shutter for Use with Cable Box No. 556	4	5.00
548	" " " " " " " 557	5	6.00

T & B Cable Boxes



No. 590

A practical and handy box for armored conductor installations.

Boxes are $2\frac{3}{4}$ inches in diameter by $\frac{3}{4}$ inch deep.

Cat. No.	Description	Std. Pkg.	Wt. per 100	Lbs. per 100	Price per 100
590	For Straight Electric Work, $\frac{3}{8}$ -inch Fixture Stem	100	51		\$22.00
591	For Combination Gas and Electric to Slip $\frac{3}{8}$ -inch Gas Pipe	100	50		22.00

T & B Cable Boxes

Particularly well adapted to narrow bracket installations because of its small diameter.

Boxes are $2\frac{3}{4}$ inches in diameter by $\frac{3}{4}$ inch deep.



No. 565

Cat. No.	Description	Std. Pkg.	Wt. per 100	Lbs. per 100	Price per 100
565	For Straight Electric Work, $\frac{3}{8}$ -inch Fixture Stem	100	50		\$22.00
566	For Combination Gas and Electric to Slip $\frac{3}{8}$ -inch Gas Pipe	100	50		22.00

T & B Clamp Loom Boxes



No. 567

Particularly well adapted to narrow bracket installations because of its small diameter.

Boxes are $2\frac{3}{4}$ inches in diameter by $\frac{3}{4}$ inch deep.

No. 568 has set screw to bond gas pipe.

Cat. No.	Description	Std. Pkg.	Wt. per 100	Lbs. per 100	Price per 100
567	For Straight Electric Work, $\frac{3}{8}$ -inch Fixture Stem	100	50		\$22.00
568	For Combination Gas and Electric, to Slip $\frac{3}{8}$ -inch Gas Pipe	100	50		22.00

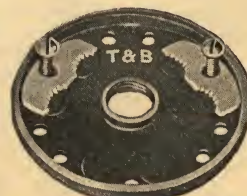
T & B Loom Plates

Two clamps which securely fasten the loom to the plate are furnished.

Nos. 1560 and 1562 are for straight electric work, with $\frac{3}{8}$ -inch thread.

Nos. 1561 and 1563 are for combination gas and electric work to slip $\frac{3}{8}$ -inch gas pipe.

Nos. 1561 and 1563 have fibre ring.

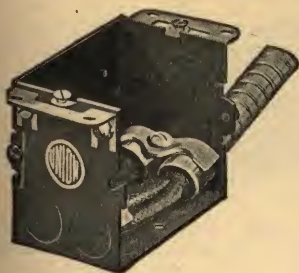


No. 1560

Cat. No.	Description	Std. Pkg.	Wt. per 100	Lbs. per 100	Price per 100
1560	Shallow Plate	100	22		\$22.00
1561	" " "	100	22		22.00
1562	Deep Plate, $\frac{5}{8}$ inch	100	32		22.00
1563	" " $\frac{3}{8}$ "	100	32		22.00



Type X Gem Sectional Switch Boxes For Flexible Metallic Conduit



The knockouts provided will accommodate BX Nos. 10, 12 and 14 B. & S. twin conductors and BX3 Nos. 12 and 14 B. & S. triple conductors, also $\frac{5}{16}$ inch and $\frac{3}{8}$ -inch flexible steel conduit when ends are protected by brass bushing caps.

Length, 3 inches; width, 2 inches.

Regularly finished with coat of black insulating enamel. Galvanized extra.

Depth Inches	Description	Std. Wt., Lbs. Pkg. per 100	Price Each
2 1/2	With No. 1 Clamps.....	100 83	\$.60
2 1/2	Unit without Sides with No. 1 Clamps	100 47	.50

Types D, F, FC and E Gem Sectional Switch Boxes

For Non-metallic Flexible Conduit

Equipped with reversible and sliding ears which have an adjustment of $\frac{1}{2}$ inch up to $\frac{3}{4}$ inch, suitable for both old and new work.

Types D, F, FC and E boxes are bevel-cornered and are practical for use in rewiring old buildings.

Length, 3 inches; width, 2 inches.

Knockouts, $\frac{5}{8}$ inch, 2 in each side and 2 in each beveled corner only.

Finished with coat of black enamel. Galvanized extra.



Type	Depth In.	Description	Std. Wt., Lbs. Pkg. per 100	Price Each
D	2	No Clamps.....	100 64	\$.50
D	2	Unit without Sides or Clamps....	100 37	.40
F	2 1/4	No Clamps.....	100 69	.50
F	2 1/4	Unit without Sides or Clamps....	100 39	.40
FC	2 1/4	With No. 2 Clamps.....	100 73	.60
FC	2 1/4	Unit with No. 2 Clamps without Sides.....	100 43	.50
E	2 1/2	No Clamps.....	100 73	.50
E	2 1/2	Unit without Sides or Clamps....	100 42	.40

Types S, C and A Gem Sectional Switch Boxes

For Non-metallic Flexible Conduit



Equipped with reversible and sliding ears which have an adjustment of $\frac{1}{2}$ inch up to $\frac{3}{4}$ inch, suitable for both old and new work.

Types S, C and A boxes are square-cornered and are particularly adapted for new work on account of the space that is available in corners for wiring, bushing etc.

Length, 3 inches; width, 2 inches.

Knockouts, $\frac{5}{8}$ inch, 2 in each side, 2 in each end and 4 in bottom.

Regularly finished with coat of black insulating enamel. Galvanized at a slight advance in price.

Type	Depth In.	Description	Std. Wt., Lbs. Pkg. per 100	Price Each
S	2	No Clamps.....	100 67	\$.50
S	2	Unit without Sides or Clamps....	100 39	.40
C	2 1/2	No Clamps.....	100 78	.50
C	2 1/2	Unit without Sides or Clamps....	100 45	.40
A	3	No Clamps.....	50 88	.50
A	3	Unit without Sides or Clamps....	50 48	.40

Types BS, BM, B and BD Gem Sectional Switch Boxes For Rigid Conduit



These switch boxes accommodate all standard makes of switches and receptacles and can be furnished with $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch conduit knockouts. May also be used for flexible tubing or larger than $\frac{1}{2}$ -inch size if desired and for standard BX conductors by using box connectors.

All boxes are 3 inches long and 2 inches wide.

FINISH.—Regularly furnished with coat of black insulating enamel. Galvanized extra.

Type	Depth In.	Description	Std. Wt., Lbs. Pkg. per 100	Price Each
BS	2	Use Type R Bushing.....	100 67	\$.50
BS	2	Unit without Sides. Use Type R Bushing.....	100 39	.40
BM	2 1/2	Use Type R Bushing.....	100 78	.50
BM	2 1/2	Unit without Sides. Use Type R Bushing.....	100 45	.40
B	2 3/4	.....	100	.86 .50
B	2 3/4	Unit without Sides.....	100	47 .40
BD	3 1/2	.....	100	52 .50
BD	3 1/2	Unit without Sides.....	100	29 .40

Type R Gem Sectional Shallow Switch Boxes



The Type R is a shallow sectional switch box especially designed for use in thin partitions.

It is $1\frac{1}{2}$ inches deep over all, $3\frac{3}{4}$ inches long and has a $\frac{1}{2}$ -inch knockout at each end.

Nail holes are provided for securing the box to metal lath or plaster board. Standard makes of shallow switches may be readily mounted and ample space for conduit bushings is provided in the extra length of the box.

Price, Type R Single Box, Complete.....	each	\$.40
" " R Unit without Sides.....	"	.30

Type DS Union Door Switch Boxes For Rigid or Flexible Conduit

Approved by Underwriters' Laboratories, Inc. Made of 14-gauge steel, finished with black insulating enamel; can be furnished galvanized, at a small advance.

No. 1.—For Perkins and Arrow E Door Switches. One $\frac{5}{8}$ -inch knockout for flexible non-metallic conduit and $\frac{1}{2}$ -inch knockout in bottom for rigid. Screw centers $3\frac{1}{4}$ inches.

No. 2.—Same as above, but with $\frac{3}{4}$ -inch knockouts and clamps. No. 3.—For Diamond H Door Switches. One $\frac{5}{8}$ -inch knockout for flexible non-metallic conduit and $\frac{1}{2}$ -inch knockout for rigid. Screw centers $3\frac{1}{8}$ inches. No. 4.—Same as above, but with $\frac{3}{4}$ -inch knockouts and clamps. No. 5.—For H & H Door Switches. One $\frac{5}{8}$ -inch knockout for flexible conduit; $\frac{1}{2}$ -inch knockout for rigid. Screw centers $3\frac{1}{2}$ inches. No. 6.—Same as above, but with $\frac{3}{4}$ -inch knockouts and clamps.



Type	Clamps	DIMENSIONS, INCHES			Std. Wt., Lbs. Pkg. per 100	Price Each
		Length	Width	Depth		
DS-1	Without	3 5/8	1 1/8	2 5/8	100 75	\$.50
DS-2	With	3 5/8	1 3/8	2 5/8	100 76	.65
DS-3	Without	3 1/4	1 1/8	2 5/8	100 68	.50
DS-4	With	3 1/4	1 3/8	2 5/8	100 69	.65
DS-5	Without	3	1 3/8	3	100 69	.50
DS-6	With	3	1 3/8	3	100 70	.65



Nos. 170 and 170A Union Sectional Switch Boxes

For Loom or Rigid Conduit



No. 170 box is four inches long, two inches wide and $1\frac{1}{8}$ inches deep. The end outlets are for $\frac{1}{2}$ -inch conduit, the two outlets in each side for loom or $\frac{3}{8}$ -inch flexible conduit. Not provided with external supporting ears. Has one mounting hole in bottom. Particularly adapted for thin partition and outside wall work. No. 170A box is a single sectional box same as No. 170 but is provided with external ears for attaching to wall or plaster.

Cat. No.	Depth Inches	No. of Gangs	Ears	Std. Pkg.	Wt. Lbs. per 100	Price Each
170	$1\frac{1}{8}$	1	Without	100	75	\$.20
170	$1\frac{1}{8}$	2	"	50	54	.38
170	$1\frac{1}{8}$	Spacer	"	100	40	.18
170-A	$1\frac{1}{8}$	1	With	100	77	.30
170-A	$1\frac{1}{8}$	2	"	50	55	.54

No. 170A box with ears not suitable for old work, because standard switch plates will not cover ears.

No. 155 Union Sectional Switch Boxes

For Rigid Conduit



The No. 155 single switch box provides ample room for making splices, taps or junctions. Both the top side cover-plates can be removed by loosening the screws, which permits easy access to the wires. The box is 4 inches long, 4 inches wide. Two knockouts in each side, two in each end for $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch conduit. Screw centers $3\frac{3}{4}$ inches. Provided with mounting holes in bottom.

FINISH.—Regularly supplied with black enamel or galvanized finish. When finish is not specified black enamel will be furnished.

Cat. No.	Depth Inches	No. of Gangs	Std. Pkg.	Wt., Lbs. per 100	Price Each
155	$2\frac{5}{8}$	1	50	$73\frac{1}{2}$	\$.34

No. 160 Union Sectional Conduit Switch Boxes

For Rigid Conduit

For Push Button Switches and Plug Receptacles



No. 160 Box

No. 160 Spacer

The hook eye construction permits rapid assembling when additional gangs are required. With the aid of spacers, this box can be built up to any size for accommodating additional switches. Four inches long, $1\frac{1}{2}$ inches wide. Four knockouts in each side, two in each end, for $\frac{1}{2}$ or $\frac{3}{4}$ -inch rigid conduit. Screw centers $3\frac{3}{4}$ inches. No. 160 spacer is 4 inches long, $1\frac{1}{2}$ inches wide. Screw centers $3\frac{3}{4}$ inches.

Cat. No.	Depth Inches	No. of Gangs	Std. Pkg.	Wt., Lb. per 100	Price Each
160	$2\frac{5}{8}$	2	25	51	\$.60
160S	$2\frac{5}{8}$	Spacer	100	49	.26

FINISH.—Regularly supplied with black enamel or galvanized finish. When finish is not specified, black enamel will be furnished.

Union Solid One-piece Switch Boxes and Covers

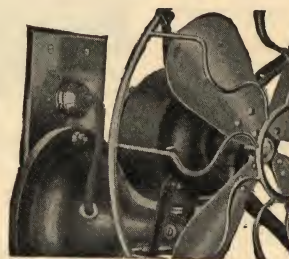


This box is made of pressed steel. Covers have mounting centers that will accommodate all standard push button switches. Covers are provided with extra slotted screw holes, plugged, to fit next smaller size box.

Regularly furnished with galvanized finish.

Boxes						Covers					
Cat. No.	No. of Gangs	Lgth. of Box In.	Wt. per 100	Price Each		Cat. No.	No. of Gangs	Lgth. of Cover In.	Wt. Lbs. per 100	Price Each	
302	2	$6\frac{15}{16}$	173	\$.60		322	2	$7\frac{1}{8}$	69	\$.30	
303	3	$8\frac{3}{4}$	206	.90		323	3	9	80	.45	
304	4	$10\frac{9}{16}$	233	1.20		324	4	$10\frac{3}{4}$	90	.60	
305	5	$12\frac{3}{8}$	276	1.60		325	5	$12\frac{9}{16}$	99	.75	
306	6	$14\frac{3}{16}$	300	3.10		326	6	$14\frac{3}{8}$	109	1.45	
307	7	16	334	4.70		327	7	$16\frac{3}{16}$	123	2.60	
308	8	$17\frac{13}{16}$	375	5.00		328	8	18	138	2.90	
309	9	$19\frac{1}{8}$	425	5.50		329	9	$19\frac{13}{16}$	150	3.30	
310	10	$21\frac{5}{8}$	450	6.00		330	10	$21\frac{5}{8}$	165	3.60	

FA Hanger Outlets

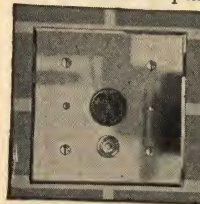


Fan Attached to Hanger Outlet

FA Hanger Outlets are a combination of a special $4 \times 4 \times 1\frac{1}{2}$ -inch outlet box, with substantial supports in each corner to which the cover is fastened with screws, and a cover of $\frac{3}{4}$ -inch brass 5 inches square with beveled edges, furnished with four brass screws $1\frac{1}{4}$ inches long, to take up the variation in the thickness of plaster. The cover is furnished in the center with a Hubbell No. 5547 standard universal flush receptacle.

Attached to the center of the plate at the lower side is a $\frac{1}{4}$ -inch steel machine bolt, with nut and washer for attaching an electric fan heater or lighted picture.

Hanger outlets are furnished with cover finished brush-brass.



Hanger Outlet

Outlet covers can be had in special finishes at an addition to regular price.

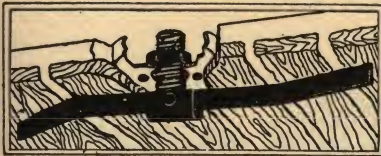
Cat. No.	Description	Size of Box Inches	Size of Cover Inches	Price Each
45	Furnished Complete with Receptacle	$4 \times 4 \times 2\frac{1}{4}$	5x5	\$5.00

Peerless Loom Clamps 1-8-3



Clamp is held securely in place by locknut on nipple or stud. By simply loosening the locknut any loom may be removed or other loom added, up to capacity of outlet box. Packed 1000 to a standard package; weight, 26 lbs.

Price.....each \$.03

**Type A Peerless Outlet Hangers**

To install ceiling and side wall outlets in houses already completed and plastered. Packed 100 in a carton; weight, 28 lbs.

Price, Type A.....each \$.10

Type C Peerless Hangers

For Use with Loom and Peerless Loom Clamp



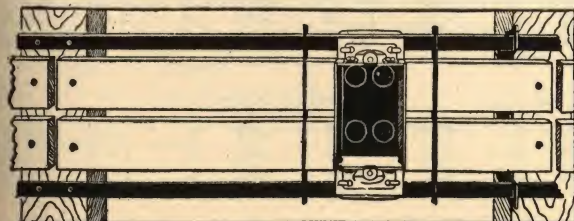
The nipple or stud is suspended on a steel rod and is adjustable to any position between beams. The short right angle point at end of rod is easily driven into bottom of beam and prevents sidewise movement. No nails are needed to install this hanger. The nipple or stud is of $\frac{3}{8}$ -inch pipe, full threaded with set screw to tighten stud and box. Packed 100 in a carton; weight, 58 pounds.

Price, Type C.....each \$.15

Type C-17 Peerless Hangers

Similar to Type C but is constructed for use with BX and $1\frac{5}{8}$ -inch deep box. Packed 100 in carton; weight, 58 pounds.

Price, Type C-17.....each \$.15

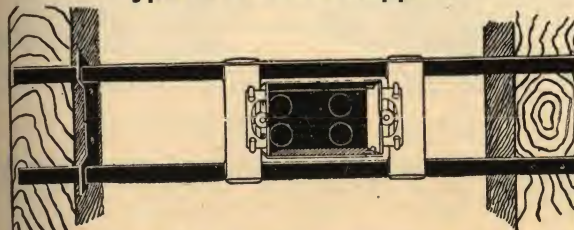
Type B Peerless Supports

Consists of two strong steel bars each 18 inches long, equipped with lath-holders or supports and adjustable steel clips which fasten to any standard wall cases.

Installed by the use of four nails.

Packed 100 in a carton; weight, 42 pounds.

Price, Type B.....each \$.15

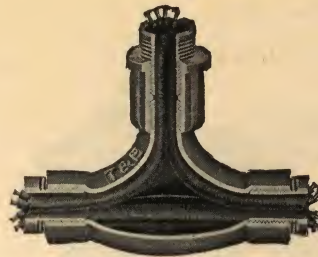
Type D Peerless Supports

Designed for use in installing a receptacle or switch box in a horizontal instead of vertical position as in base-board outlets, etc.

Installed by the use of four nails and is so designed that at any time an additional box may be added without defacing the wall.

Packed 100 in a carton; weight, 40 pounds.

Price, Type D.....each \$.15

T & B Bulb Tees

Bulb Tee with Brass Floor Coupling

Malleable iron, galvanized. Easy to pull wire through.

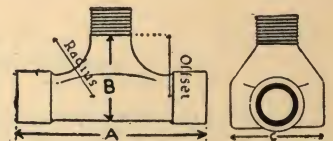
Cat. No.	Size Inches	Wt. Lbs. per 100	Price per 100
464	$\frac{3}{4}$	102	\$100.00
465	1	155	150.00
466	$1\frac{1}{4}$	282	400.00

Standard package, No. 464, 50; No. 465, 25; No. 466, 10.

Dimensions

Radius and Offset are the same as Bushed Elbow according to size.

Size, In.	DIMENSIONS, INCHES		
	A	B	C
$\frac{3}{4}$	$4\frac{11}{16}$	$2\frac{3}{4}$	$2\frac{3}{8}$
1	$5\frac{1}{2}$	$3\frac{5}{16}$	$2\frac{7}{8}$
$1\frac{1}{4}$	$6\frac{5}{8}$	$4\frac{1}{16}$	$3\frac{3}{4}$

**T & B Bushed Elbows**

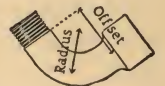
Bushed Elbow with Brass Floor Coupling

Cat. No.	Size Inches	Wt. Lbs. per 100	Price per 100
460	$\frac{1}{2}$	28	\$32.00
461	$\frac{3}{4}$	46	45.00
462	1	72	65.00
463	$1\frac{1}{4}$	130	200.00

Standard package, No. 460, 100; No. 461, 100; No. 462, 25; No. 463, 10.

Dimensions

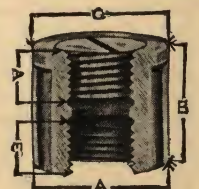
Size, In.	Radius, In.	Offset, In.
$\frac{1}{2}$	$\frac{7}{16}$	1
$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{2}$
1	$1\frac{1}{4}$	$1\frac{3}{4}$
$1\frac{1}{4}$	$1\frac{1}{2}$	2

**T & B Brass Floor Couplings**

Designed for use with above Bushed Elbows and Bulb Tees. Can be used to great advantage with ordinary conduit Elbows.

Cat. No.	Size Inches	Wt. Lbs. per 100	Price per 100
480	$\frac{1}{2}$	23	\$80.00
481	$\frac{3}{4}$	35	95.00
482	1	58	115.00
483	$1\frac{1}{4}$	95	250.00

Size In.	DIMENSIONS, INCHES				
	A	B	C	D	E
$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{16}$	$\frac{5}{8}$	$\frac{5}{8}$
1	$1\frac{3}{8}$	$1\frac{9}{16}$	$1\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
$1\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{5}{8}$	$2\frac{3}{16}$	$\frac{1}{16}$	$\frac{1}{16}$

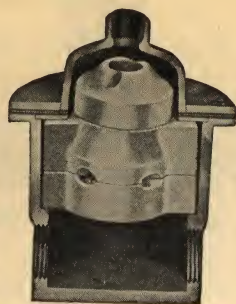




Fullman Non-adjustable Floor Outlets



No. 477



Sectional View

No. 477 Outlets

The design and construction of the No. 477 outlet is simple. It has few parts, small outside dimensions and plenty of room inside for wiring. Fitted with Hubbell Receptacle and Bell Nozzle. The receptacle is locked in position with a flat steel ring which also serves as a support for the bell nozzle or flush brass plug. This construction permits use of only one rubber gasket.

Cover plate is $3\frac{1}{2}$ inches in diameter with 2-inch opening for bell nozzle or flush brass plug.

Height, $3\frac{3}{8}$ inches to top of cover plate.

There is one conduit hole in each side and two in bottom tapped for $\frac{1}{2}$ -inch conduit. Three of the holes are plugged.

All brass parts are brushed brass finish. All iron and steel parts are Sherardized to prevent rust.

Comes in standard packages of 25 complete outlets.

Special brass flange rings can be furnished at an extra charge if outlets are to be used in granolithic, cement, marble or similar flooring to prevent chipping when cover is removed.

Complete outlet, as furnished, consists of box body, porcelain plug and receptacle, flat steel ring, rubber gasket, brass cover plate, flush brass plug and bell nozzle.

Net weight each, $2\frac{1}{2}$ pounds.

Price, No. 477, Complete.....each \$4.00

No. 490 Outlets

Complete outlet is similar to No. 477 and consists of Nos. 481, 482, 484 and 487 parts listed below. The No. 465 and 467 nozzles can be used in cover plate.

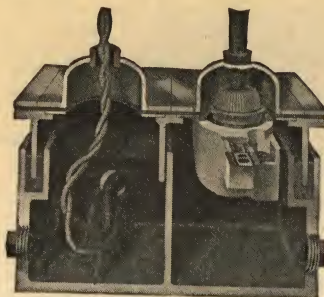
Net weight each, $1\frac{3}{4}$ pounds.

Price, No. 490, Complete.....each \$2.20

Separate Parts

Cat. No.	Description	Net Wt. Lbs. Ea.	Price Each
478	Porcelain Plug and Receptacle.....	$\frac{1}{4}$	\$.60
479	Brass Bell Nozzle.....	$\frac{1}{6}$	.80
480	2-inch Flush Brass Plug for No. 483 Cover	$\frac{1}{6}$	.25
481	Box Body Only.....	$1\frac{1}{4}$	1.30
482	Brass Cover Plate with $\frac{1}{2}$ -inch Tapped Hole	$\frac{3}{8}$	.65
483	Brass Cover Plate with 2-inch Hole.....	$\frac{1}{4}$	.70
484	Rubber Gasket.....	$\frac{1}{16}$	.10
485	Flat Steel Ring.....	$\frac{3}{16}$	.10
486	Receptacle Strap.....	$\frac{1}{16}$	.15
487	$\frac{1}{2}$ -inch Flush Brass Plug for No. 482 Cover	$\frac{1}{16}$	.15

Fullman Gang Floor Outlets



This rectangular gang floor outlet is for supplying a variety of service such as electric lights, fans, telephones, etc., from one point.

It makes a neater appearance than several single outlets grouped near a desk or table.

Lugs are provided in each section for flush type receptacles.

No. 459 cover plates are furnished standard for use

with No. 466 bell nozzle. No. 458 cover plate may be substituted for one or more sections if desired for use with No. 465 or No. 467 nozzles or $\frac{1}{2}$ -inch pipe extension. Brass edge frame extends around all cover plates.

Minimum height to top of cover plate is four inches. Box body only is $3\frac{1}{4}$ inches high. The cover of No. 441 outlet is $5\frac{1}{2}$ inches by 4 inches over all. The cover of No. 442 outlet is $5\frac{1}{2}$ inches by 7 inches over all. Each additional section adds three inches.

End sections are provided with three holes tapped for $\frac{1}{2}$ -inch conduit. Intermediate sections have two $\frac{1}{2}$ -inch tapped holes. Can be tapped for $\frac{3}{4}$ -inch and 1-inch conduit with room for bushings or for $1\frac{1}{4}$ -inch conduit without room for bushings. Sketches must be furnished showing size and location of conduit holes if special tapping is required.

All brass parts furnished brushed brass finish. All iron and steel parts Sherardized to prevent rust.

Complete Outlets

Complete rectangular outlets are regularly furnished with No. 459 cover plates. Can be provided with No. 458 cover plate when specified.

Cat. No.	No. of Gangs	Net Wt. Lbs., Each	Price Each	Cat. No.	No. of Gangs	Net Wt. Lbs., Each	Price Each
441	1	$6\frac{1}{2}$	\$5.50	444	4	$19\frac{3}{4}$	\$22.00
442	2	$10\frac{3}{4}$	11.00	445	5	$24\frac{1}{2}$	27.50
443	3	$15\frac{3}{4}$	16.50	446	6	$31\frac{1}{2}$	33.00

Bodies Only

Cat. No.	No. of Gangs	Net Wt. Lbs., Each	Price Each	Cat. No.	No. of Gangs	Net Wt. Lbs., Each	Price Each
447	1	$4\frac{1}{2}$	\$2.20	450	4	$11\frac{1}{4}$	\$8.80
448	2	$6\frac{3}{4}$	4.40	451	5	$14\frac{1}{2}$	11.00
449	3	$9\frac{3}{4}$	6.60	452	6	$18\frac{1}{2}$	13.20

Adjusting Frames with Rubber Gasket and Brass Edge Frame

Cat. No.	No. of Gangs	Net Wt. Lbs., Each	Price Each	Cat. No.	No. of Gangs	Net Wt. Lbs., Each	Price Each
487	1	$1\frac{1}{2}$	\$1.74	455	4	$6\frac{1}{2}$	\$6.96
453	2	$2\frac{3}{4}$	3.48	456	5	7	8.70
454	3	$4\frac{1}{2}$	5.22	457	6	$9\frac{1}{2}$	10.44

Brass Cover Plates

Cat. No.	Description	Net Wt. Oz., Ea.	Price Each
458	For One Section of Gang Outlet with $\frac{1}{2}$ -inch Flush Brass Plug. Takes Nos. 465 and 467 Nozzles.....	8	\$.96
459	For One Section of Gang Outlet with 2-inch Flush Brass Plug. Takes No. 466 Nozzle.....	10	1.46

Nozzles

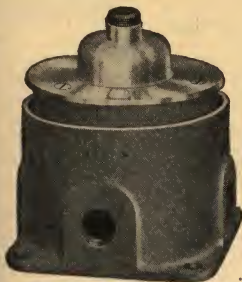
Cat. No.	Description	Net Wt. Lbs.	Price Each
465	Brass Drip, for No. 458 Cover Plate.....	4	\$1.00
466	" Bell, " " 459 " "	3	1.00
467	" Stem, " " 458 " "	3	1.00

Brass Plugs

Cat. No.	Description	Net Wt. Lbs.	Price Each
471	$\frac{1}{2}$ -inch Flush Brass Plug.....	1	\$.15
472	2 " " "	2	.35

Sealing Cement

Cat. No.	Description	Net Wt. Lbs.	Price Each
476	For One Outlet or One Section of Gang Outlet	4	\$.10

**Fullman Adjustable Floor Outlets****No. 401 Complete Outlets****No. 401 Outlet with
No. 466 Nozzle****Sectional View
No. 401 Outlet and No. 466
Nozzle with Receptacle**

Cover plates are $4\frac{1}{4}$ inches in diameter, $\frac{5}{8}$ inch thick, sheet brass with threaded opening for 2-inch flush brass plug or No. 466 bell nozzle. Can also be furnished with $\frac{1}{2}$ -inch flush brass plug.

Height, $3\frac{3}{4}$ inches, if standard No. 402 box body and No. 405 adjusting ring are used.

**External View of
No. 401 Outlet with
No. 402 Box Body**

Has four holes tapped for $\frac{1}{2}$ -inch conduit, three of which are plugged. Can be tapped for larger conduits if sketches are furnished showing size and location of conduit holes. Only one conduit hole can be tapped in each of four sides of box bodies.

All brass parts furnished brushed brass finish. All iron and steel parts sherardized to prevent rust.

Complete outlet consists of box body, sealing cement, adjusting ring, brass flange ring,

rubber gasket and brass cover plate with 2-inch flush brass plug for No. 466 nozzle. Choice of box bodies, Nos. 402 and 404. Choice of adjusting rings Nos. 405, 406, 407 or 408.

Net weight, 5 pounds.

Price, No. 401, Complete.....each \$4.50

Porcelain receptacles and plugs illustrated with outlets are not included in prices.

Separate Parts**No. 402 Body****No. 404 Body****No. 402 Standard Box Bodies Only**

Can be tapped for $\frac{1}{2}$ -inch, $\frac{3}{4}$ -inch, or 1-inch conduit. If larger conduit holes are required, specify No. 404 Box Body.

Net weight, $3\frac{1}{2}$ pounds.

Price, No. 402.....each \$2.27

No. 404 Deep Box Bodies Only

Can be tapped for conduits up to $1\frac{1}{2}$ -inch with room for bushing inside or for 2-inch conduit without room for bushing.

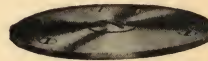
Net weight, $6\frac{1}{4}$ pounds.

Price, No. 404.....each \$2.27

Fullman Adjustable Floor Outlets**Separate Parts****Adjusting Rings****No. 405**

The No. 405 adjusting ring is $1\frac{1}{4}$ inches deep (standard). Deeper rings also furnished as per Nos. 406, 407 and 408. These rings give a range of adjustment of about $2\frac{1}{2}$ inches. All are interchangeable.

Cat. No.	Description	Net Wt. Lbs., Ea.	Price Each
405	Standard Combination Adjusting Ring and Brass Flange Ring, $1\frac{1}{2}$ Inches Deep Over All.....	1	\$.50
406	Combination Adjusting and Brass Flange Ring, $2\frac{1}{2}$ Inches Deep.....	$1\frac{1}{4}$	.50
407	Combination Adjusting and Brass Flange Ring, $2\frac{3}{4}$ Inches Deep.....	$1\frac{1}{2}$	.50
408	Combination Adjusting and Brass Flange Ring, $3\frac{3}{8}$ Inches Deep.....	$1\frac{3}{4}$	.50

No. 409 Brass Cover Plates**No. 409**

No. 409 brass cover plate has a diameter of $4\frac{1}{4}$ inches with $\frac{1}{2}$ -inch opening in center for Nos. 465 and 467 nozzles. No. 471 flush brass plug or $\frac{1}{2}$ -inch pipe extension. Net weight, 12 ounces.

Price, No. 409.....each \$1.06

No. 410 Brass Cover Plates

No. 410 brass cover plate has a diameter of $4\frac{1}{4}$ inches with 2-inch opening in center for No. 466 nozzle or No. 472 flush brass plug. Net weight, 12 ounces.

**No. 410**

Price, No. 410.....each \$1.56

No. 465 Nozzles**No. 465**

No. 465 nozzle is threaded to fit a $\frac{1}{2}$ -inch conduit hole in No. 409 cover plate. The two openings are for wire extensions.

Net weight, 4 ounces.

Price, No. 465.....each \$1.00

No. 466 Nozzles

No. 466 nozzle is threaded to fit a 2-inch opening in No. 410 cover plate. This nozzle protects the porcelain plug from injury when inserted in receptacle.

Net weight, 3 ounces.

Price, No. 466.....each \$1.00

**No. 466****No. 467 Nozzles****No. 467**

No. 467 nozzle is threaded to fit a $\frac{1}{2}$ -inch conduit hole in No. 409 cover plate.

Net weight, 3 ounces.

Price, No. 467.....each \$1.00

Miscellaneous Parts

Cat. No.	Description	Net Wt. Oz. Each	Price Each
411	Rubber Gasket.....		\$.07
471	$\frac{1}{2}$ -inch Flush Brass Plug.....	1	.15
472	2 " " " ".....	2	.35
476	Sealing Cement for One Outlet.....	4	.10

Condulets

Condulets are an important factor in any conduit installation, as they simplify wiring problems and produce a finished appearance.

In casting Condulets a soft gray iron is used. This insures great strength and ruggedness, and enables them to resist the action of acid fumes, gases, and moisture. Each Condulet is specially designed to meet a certain requirement, and there is one for practically every need. Furthermore, since each type is designed to meet one rather than several requirements, it is possible to make it so compact and neat that it improves rather than detracts from the general appearance of the conduit system.

The hubs have a tapered thread to insure a tight joint, and an integral bushing which protects the insulation of the wire from abrasion by any burrs that may be on the end of the conduit.

There are Condulets that take a great variety of covers and wiring devices; those that can be used as junction boxes only; those that house a switch or plug receptacle, or both; and those that may be classed as special conduit outlets.

Condulets are easy to install, which represents a saving in labor.

Special bulletins will be furnished on application showing a wide variety of types of Condulets, which, owing to lack of space, it was impossible to list in this catalogue.

“Condulet the Job”



Type A Obround Condulet Bodies



Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
A1	1/2	200	145	\$.24
A2	3/4	100	100	.31
A3	1	50	65	.43
A4	1 1/4	25	60	.62
A5	1 1/2	10	40	.80
A6	2	5	30	1.66
A7	2 1/2	5	50	4.20
A8	3	5	55	5.00
A9	3 1/2	5	70	8.15
A10	4	5	70	9.00
A 011	4 1/2	1	20	11.50
A 012	5	1	25	14.00

Type B Obround Condulet Bodies

Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000. For small conductors.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
B1	1/2	200	155	\$.29
B2	3/4	100	100	.36
B3	1	50	70	.50
B4	1 1/4	25	60	\$.80
B5	1 1/2	10	40	1.04
B6	2	5	30	2.14

Type BE Obround Condulet Bodies



Galvanized or black enamel finish.

Take Obround covers only.

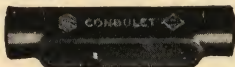


Have removable top which makes it possible to pull conductors through the body without bending.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BE1	1/2	200	300	\$.60
BE2	3/4	100	175	.75
BE3	1	50	150	1.10
BE4	1 1/4	25	100	1.70
BE5	1 1/2	10	60	2.25
BE6	2	5	60	3.90
BE7	2 1/2	5	90	8.15

Type C Obround Condulet Bodies

Galvanized or enamel. Take Obround covers and Condulettos, or other wiring devices.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
C1	1/2	200	185	\$.36
C2	3/4	100	120	.41
C3	1	50	90	.59
C4	1 1/4	25	70	.94

Type CO Obround Condulet Bodies

Galvanized or black enamel finish.

Take Obround covers and Condulettos, or other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

This type provides an offset of four inches in a conduit system often encountered in brick walls of varying thickness.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CO1	1/2	50	75	\$.50
CO2	3/4	50	95	.65
CO3	1	25	60	.75
CO4	1 1/4	10	35	1.25
CO5	1 1/2	10	50	1.60
CO6	2	5	45	3.25
CO7	2 1/2	5	60	5.20
CO8	3	5	70	7.90
CO9	3 1/2	5	90	12.60
CO10	4	5	95	13.80

Type COV Obround Condulet Bodies



Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

When connected by a nipple of suitable length, two COV bodies form a convenient cross-over for two or more pipes or conduits.

For 2 1/2 and 3-inch sizes, to cross over 3 1/2-inch conduit, use CO7 and CO8 respectively.

Cat. No.	Size In.	Size of Conduit Crossed Over Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
COV14	1/2	1 1/4	50	80	\$.50
COV24	3/4	1 1/4	50	100	.65
COV34	1	1 1/4	25	60	.75
COV45	1 1/4	1 1/2	10	35	1.25
COV56	1 1/2	2	10	50	1.60
COV67	2	2 1/2	5	45	3.25

Type CUB Obround Condulet Bodies

Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

Provides a cross-over where necessary to bridge a single pipe or conduit.



Cat. No.	Size In.	Size of Conduit Crossed Over Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CUB12	1/2	3/4	25	50	\$.75
CUB14	1/2	1 1/4	25	55	.85
CUB23	3/4	1	25	65	.90
CUB24	3/4	1 1/4	10	40	.95
CUB34	1	1 1/4	10	50	1.40
CUB45	1 1/4	1 1/2	10	60	1.90
CUB56	1 1/2	2	10	70	2.40
CUB67	2	2 1/2	5	60	4.80

Type E Obround Condulet Bodies



Take Obround covers and Condulettos. Also other wiring devices see pages 422 to 424, Condulet cat. No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
E1	1/2	200	150	\$.29
E2	3/4	100	95	.35
E3	1	50	70	.50
E4	1 1/4	20	60	.80

Type F Obround Condulet Bodies

For Service Entrance

Galvanized or enamel. Take Obround covers only.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
F1	1/2	100	100	\$.35
F2	3/4	100	190	.50
F3	1	50	140	.75



Type FE Obround Condulet Bodies

For Service Entrance

Galvanized or black enamel finish. Take Obround covers only.

A convenient type for service entrance as it permits the conductor to be pulled through without bending.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FE1	1/2	100	220	\$.50
FE2	3/4	100	240	.65
FE3	1	50	155	1.05
FE4	1 1/4	25	140	1.64
FE5	1 1/2	10	75	2.52
FE6	2	5	65	4.40
FE7	2 1/2	5	115	8.20



Type LB Obround Condulet Bodies



Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LB11	1/2	200	185	\$.40
LB22	3/4	100	125	.45
LB33	1	50	90	.65
LB44	1 1/4	25	95	1.05
LB55	1 1/2	10	45	1.40
LB66	2	5	40	2.50
LB77	2 1/2	5	50	5.00
LB88	3	5	65	6.50
LB99	3 1/2	5	90	10.50
LB1010	4	5	100	12.00

Type LF Obround Condulet Bodies

Galvanized or enamel. Take Obround covers, Obround Condulettos, or other wiring devices.

Types LF, LB, LL, and LR bodies of the same size may be assorted to make a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LF11	1/2	200	235	\$.40
LF22	3/4	100	135	.45
LF33	1	50	110	.65
LF44	1 1/4	25	85	1.05
LF55	1 1/2	10	50	1.40
LF66	2	5	45	2.50
LF77	2 1/2	5	60	5.00
LF88	3	5	75	6.50
LF99	3 1/2	5	105	10.50
LF1010	4	5	120	12.00

Type LL Obround Condulet Bodies



Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LL11	1/2	200	185	\$.40
LL22	3/4	100	125	.45
LL33	1	50	90	.65
LL44	1 1/4	25	95	1.05
LL55	1 1/2	10	45	1.40
LL66	2	5	40	2.50
LL77	2 1/2	5	50	5.00
LL88	3	5	65	6.50
LL99	3 1/2	5	90	10.50
LL1010	4	5	100	12.00

Type LR Obround Condulet Bodies

Galvanized or enamel. Take Obround covers, Obround Condulettos, or other wiring devices.

Types LR, LB, LF, and LL bodies of the same size may be assorted to make a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LR11	1/2	200	185	\$.40
LR22	3/4	100	125	.45
LR33	1	50	90	.65
LR44	1 1/4	25	95	1.05
LR55	1 1/2	10	45	1.40
LR66	2	5	40	2.50
LR77	2 1/2	5	50	5.00
LR88	3	5	65	6.50
LR99	3 1/2	5	90	10.50
LR1010	4	5	100	12.00

Type LBB Obround Condulet Bodies



Galvanized or enamel. Take Obround covers, Obround Condulettos, and other wiring devices.

Types LBB, LFB, LLB, and LRB bodies of the same size may be assorted to make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LBB11	1/2	100	100	\$.40
LBB22	3/4	50	65	.45
LBB33	1	50	90	.65
LBB44	1 1/4	25	75	1.05
LBB55	1 1/2	10	45	1.40
LBB66	2	5	40	2.50
LBB77	2 1/2	5	50	5.00
LBB88	3	5	70	6.50
LBB99	3 1/2	5	90	10.50
LBB1010	4	5	100	12.00

Type LFB Obround Condulet Bodies

Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LFB11	1/2	100	110	\$.40
LFB22	3/4	50	75	.45
LFB33	1	50	95	.65
LFB44	1 1/4	25	80	1.05
LFB55	1 1/2	10	50	1.40
LFB66	2	5	45	2.50
LFB77	2 1/2	5	55	5.00
LFB88	3	5	75	6.50
LFB99	3 1/2	5	100	10.50
LFB1010	4	5	110	12.00

Type LLB Obround Condulet Bodies



Galvanized or enamel. Take Obround covers, Obround Condulettos, and other wiring devices.

Types LLB, LBB, LFB, and LRB bodies of the same size may be assorted to make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LLB11	1/2	100	100	\$.40
LLB22	3/4	50	65	.45
LLB33	1	50	90	.65
LLB44	1 1/4	25	75	1.05
LLB55	1 1/2	10	45	1.40
LLB66	2	5	40	2.50
LLB77	2 1/2	5	50	5.00
LLB88	3	5	70	6.50
LLB99	3 1/2	5	90	10.50
LLB1010	4	5	100	12.00

Type LRB Obround Condulet Bodies

Galvanized or enamel. Take Obround covers and Condulettos. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

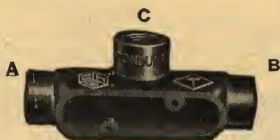


Types LRB, LBB, LFB, and LLB bodies of the same size may be assorted to make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LRB11	1/2	100	100	\$.40
LRB22	3/4	50	65	.45
LRB33	1	50	90	.65
LRB44	1 1/4	25	75	1.05
LRB55	1 1/2	10	45	1.40
LRB66	2	5	40	2.50
LRB77	2 1/2	5	50	5.00
LRB88	3	5	70	6.50
LRB99	3 1/2	5	90	10.50
LRB1010	4	5	100	12.00



Type T Obround Condulet Bodies



Galvanized or enamel. Take Obround covers and Conduletts. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

The cover or wiring device for this type is the same size as the hubs at the ends of the cover opening. Type T bodies with the same size cover opening may be assorted to make a standard package.

Cat. No.	Size, INCHES			Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	A	B	C			
T111	1/2	1/2	1/2	100	130	\$.48
T121	1/2	1/2	3/4	100	130	.56
T131	1/2	1/2	1	100	130	.63
T212	3/4	3/4	1/2	75	120	.57
T222	3/4	3/4	3/4	75	120	.57
T232	3/4	3/4	1	75	120	.65
T242	3/4	3/4	1 1/4	75	120	.77
T252	3/4	3/4	1 1/2	75	120	.90
T313	1	1	1/2	50	110	.80
T323	1	1	3/4	50	110	.80
T333	1	1	1	50	110	.80
T343	1	1	1 1/4	50	110	.97
T353	1	1	1 1/2	50	110	1.15
T363	1	1	2	50	110	1.45
T414	1 1/4	1 1/4	1/2	20	70	1.22
T424	1 1/4	1 1/4	3/4	20	70	1.22
T434	1 1/4	1 1/4	1	20	70	1.22
T444	1 1/4	1 1/4	1 1/4	20	70	1.22
T515	1 1/2	1 1/2	1/2	10	45	1.69
T525	1 1/2	1 1/2	3/4	10	45	1.69
T535	1 1/2	1 1/2	1	10	45	1.69
T555	1 1/2	1 1/2	1 1/2	10	45	1.69
T666	2	2	2	5	40	2.55
T777	2 1/2	2 1/2	2 1/2	5	55	5.00

Type TA Obround Condulet Bodies

Galvanized or enamel.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
TA1	1/2	50	75	\$.70
TA2	3/4	50	95	.75
TA3	1	25	70	1.00
TA4	1 1/4	10	50	1.55
TA5	1 1/2	10	75	2.30
TA6	2	5	45	3.95

Type TB Obround Condulet Bodies

Galvanized or black enamel finish.

Take Obround covers and Conduletts. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

The cover or wiring device is the same size as the hubs at the ends of the cover opening.

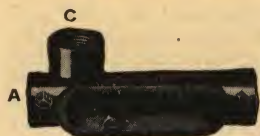
Catalogue Nos. TB222 and TB232 may be assorted to make a standard package.

Catalogue Nos. TB313, TB323 and TB333 may be assorted to make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
TB111	1/2	100	130	\$.48
TB222	3/4	50	80	.57
TB232	3/4-1 -3/4	50	80	.65
TB313	1 -1/2-1	25	60	.80
TB323	1-3/4-1	25	60	.80
TB333	1-1-1	25	60	.80
TB444	1 1/4	10	40	1.22
TB555	1 1/2	10	50	1.69
TB666	2	5	45	2.55
TB777	2 1/2	5	60	5.00
TB888	3	5	80	7.50
TB999	3 1/2	5	110	11.00
TB1010	4	5	120	13.00



Type TL Obround Condulet Bodies



Galvanized or enamel. Take Obround covers, Obround Conduletts, or other wiring devices.

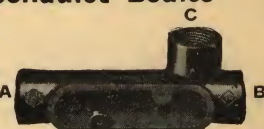
Types TL and TR bodies with the same size cover opening may be assorted to make a standard package.

Cat. No.	Size, INCHES			Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	A	B	C			
TL111	1/2	1/2	1/2	100	130	\$.48
TL121	1/2	1/2	3/4	100	130	.56
TL131	1/2	1/2	1	100	130	.63
TL212	3/4	3/4	1/2	50	80	.57
TL222	3/4	3/4	3/4	50	80	.57
TL232	3/4	3/4	1	50	80	.65
TL313	1	1	1/2	25	60	.80
TL323	1	1	3/4	25	60	.80
TL333	1	1	1	25	60	.80
TL444	1 1/4	1 1/4	1 1/4	10	45	1.22
TL555	1 1/2	1 1/2	1 1/2	10	60	1.69

Type TR Obround Condulet Bodies

Galvanized or enamel. Take Obround covers, and Conduletts.

Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.



Cat. No.	Size, INCHES			Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	A	B	C			
TR111	1/2	1/2	1/2	100	130	\$.48
TR121	1/2	1/2	3/4	100	130	.56
TR131	1/2	1/2	1	100	130	.63
TR212	3/4	3/4	1/2	50	80	.57
TR222	3/4	3/4	3/4	50	80	.57
TR232	3/4	3/4	1	50	80	.65
TR313	1	1	1/2	25	60	.80
TR323	1	1	3/4	25	60	.80
TR333	1	1	1	25	60	.80
TR444	1 1/4	1 1/4	1 1/4	10	45	1.22
TR555	1 1/2	1 1/2	1 1/2	10	60	1.69

Type U Obround Condulet Bodies



Galvanized or enamel. Take Obround covers, Obround Conduletts, or other wiring devices.

Types U, UB, and UF bodies of the same size may be assorted to make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
U11	1/2	100	100	\$.48
U22	3/4	50	80	.54
U33	1	50	100	.78
U44	1 1/4	25	80	1.26
U55	1 1/2	10	60	1.68
U66	2	5	45	3.00
U77	2 1/2	5	55	6.00
U88	3	5	70	7.80
U99	3 1/2	5	90	12.60
U1010	4	5	100	14.40

Type UB Obround Condulet Bodies

Galvanized or enamel. Take Obround covers and Conduletts. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UB11	1/2	100	100	\$.48
UB22	3/4	50	80	.54
UB33	1	50	100	.78
UB44	1 1/4	25	80	1.26
UB55	1 1/2	10	60	1.68
UB66	2	5	45	3.00
UB77	2 1/2	5	55	6.00
UB88	3	5	70	7.80
UB99	3 1/2	5	90	12.60
UB1010	4	5	100	14.40



Type UF Obround Condulet Bodies



Galvanized or enamel.
Take Obround covers, Obround Conduletts, or other wiring devices. Types UF, U and UB bodies of the same size may be assorted to make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UF11	1/2	100	110	\$.48
UF22	3/4	50	85	.54
UF33	1	50	110	.78
UF44	1 1/4	25	85	1.26
UF55	1 1/2	10	65	1.68
UF66	2	5	50	3.00
UF77	2 1/2	5	60	6.00
UF88	3	5	80	7.80
UF99	3 1/2	5	100	12.60
UF1010	4	5	110	14.40

Type X Obround Condulet Bodies

Galvanized or enamel.

Take Obround covers, and conduletts. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

The cover or wiring device for a type X Condulet body is the same size as the largest hub.

Type X bodies with the same size cover opening may be assorted to make a standard package.



Cat. No.	SIZE, INCHES				Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	A	B	C	D			
X1111	1/2	1/2	1/2	1/2	75	105	\$.60
X2111	3/4	1/2	1/2	1/2	50	70	.77
X2112	3/4	3/4	1/2	1/2	50	70	.77
X2222	3/4	3/4	3/4	3/4	50	70	.77
X3112	1	3/4	1/2	1/2	35	95	1.05
X3222	1	3/4	3/4	3/4	35	95	1.05
X3113	1	1	1/2	1/2	35	95	1.05
X3223	1	1	3/4	3/4	35	95	1.05
X3333	1	1	1	1	35	95	1.05
X4113	1 1/4	1	1/2	1/2	20	70	1.40
X4222	1 1/4	3/4	3/4	3/4	20	70	1.40
X4223	1 1/4	1	3/4	3/4	20	70	1.40
X4333	1 1/4	1	1	1	20	70	1.40
X4114	1 1/4	1 1/4	1/2	1/2	20	70	1.40
X4224	1 1/4	1 1/4	3/4	3/4	20	70	1.40
X4444	1 1/4	1 1/4	1 1/4	1 1/4	20	70	1.40
X5114	1 1/2	1 1/4	1/2	1/2	10	70	1.78
X5224	1 1/2	1 1/4	3/4	3/4	10	70	1.78
X5225	1 1/2	1 1/2	3/4	3/4	10	70	1.78
X5333	1 1/2	1	1	1	10	70	1.78
X5334	1 1/2	1 1/4	1	1	10	70	1.78
X5335	1 1/2	1 1/2	1	1	10	70	1.78
X5555	1 1/2	1 1/2	1 1/2	1 1/2	10	70	1.78

Type XA Obround Condulet Bodies



Galvanized or enamel. Take Obround covers and Conduletts. Also other wiring devices see pages 422 to 424, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
XA1	1/2	50	70	\$1.00
XA2	3/4	50	80	1.15
XA3	1	25	60	1.45

Type TBE Obround Condulet Bodies

Galvanized or enamel.

Take Obround covers and Conduletts. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

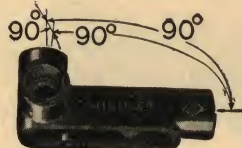
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
TBE2	3/4	25	60	\$1.00



Type LBL Obround Condulet Bodies

Galvanized or enamel.

Take Obround covers and Conduletts. Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LBL1	1/2	50	60	\$.65
LBL2	3/4	25	40	.80
LBL3	1	25	55	.95

Type LBR Obround Condulet Bodies

Galvanized or enamel.

Types LBR, LBL, LFT, and LU bodies of same size may be assorted to make a standard package.

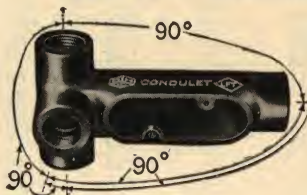
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LBR1	1/2	50	60	\$.65
LBR2	3/4	25	40	.80
LBR3	1	25	55	.95



Type LFT Obround Condulet Bodies

Galvanized or enamel.

Wiring devices, pages 422 to 424, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LFT1	1/2	50	90	\$1.05
LFT2	3/4	25	60	1.15
LFT3	1	25	75	1.30

Type LU Obround Condulet Bodies

Galvanized or enamel.

For wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LU1	1/2	50	80	\$.65
LU2	3/4	25	55	.80
LU3	1	25	60	.95



Type LBA Obround Condulet Bodies



Cat. No.	Size In.	Flanged.		Galvanized or enamel.		Price Each
		Std. Pkg.	Wt., Lbs. Std. Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	
LBA1	1/2	50	100			\$.80
LBA2	3/4	25	60			.90
LBA3	1	25	70			1.10
LBA4	1 1/4	10	40			1.80
LBA5	1 1/2	10	60			2.00
LBA6	2	5	40			3.00

Type LBV Obround Condulet Bodies

Flanged. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LBV1	1/2	50	100	\$.80
LBV2	3/4	25	60	.90
LBV3	1	25	70	1.10
LBV4	1 1/4	10	40	1.80
LBV5	1 1/2	10	60	2.00
LBV6	2	5	40	3.00



Type LFM Obround Condulet Bodies

Flanged. Take Obround covers and Conduletts, or other wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LFM1	1/2	25	65	\$1.15
LFM2	3/4	25	75	1.30
LFM3	1	25	85	1.55



Type TM Obround Condulet Bodies

Flanged. Galvanized or enamel. Take Obround covers and certain other wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
TM1	1/2	25	80	\$1.30
TM2	3/4	25	90	1.45
TM3	1	25	100	1.70





Type BM Obround Condulet Bodies



Flanged. Galvanized or enamel.
Take Obround covers and Condulettos.
Also other wiring devices, see pages 422 to 424, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BM1	1½	25	70	\$1.15
BM2	¾	25	75	1.30
BM3	1	25	85	1.55

Type DF Obround Condulet Bodies

Flanged. Galvanized or enamel.
Take Obround covers only.

Cat. No.	No. of Hubs	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
DF1	1	1½	25	75	\$1.15
DF2	1	¾	25	85	1.30
DF3	1	1	25	95	1.55



Type DM Obround Condulet Bodies

Flanged. Galvanized or enamel.
Take Obround covers and Condulettos.
Also other wiring devices, see pages 422 to 424, condulet catalogue No. 2000.

Cat. No.	No. of Hubs	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
DM1	2	1½	25	75	\$1.35
DM2	2	¾	25	85	1.50
DM3	2	1	25	95	1.75



Type OCB Condulet Branch Extensions

Galvanized or enamel. For Condulet bodies of the Obround series. Take covers. Furnished with screws. Provide a means of making extensions to existing conduit installations by bridging from one Condulet to another through the cover opening.



Cat. No.	For Condulet Bodies Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
OCB11	1½ to 1½	50	35	\$.40
OCB21	¾ " 1½	50	40	.50
OCB22	¾ " ¾	50	65	.60
OCB31	1 " 1½	25	35	.70
OCB32	1 " ¾	25	40	.80
OCB33	1 " 1	25	45	.90

Covers for Type OCB Condulet Branch Extensions

Covers for the type OCB are made both blank and with Obround opening to take Obround covers or wiring devices. Furnished with screws.

Blank Covers—Galvanized or Black Enamel Finish

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
OCB100	For OCB11...	50	35	\$.25
OCB200	" OCB21and	50	65	.40
OCB300	" OCB31, OCB32and OCB33...	25	60	.55



Covers With Openings

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
OCB101	With 1½-inch Opening....	50	30	\$.30
OCB202	With ¾-inch Opening....	50	60	.45
OCB303	With 1-inch Opening....	25	55	.65



1-wire Porcelain Condulet Covers



For Obround Condulet bodies. Furnished with screws.

Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

Standard

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
11	1½	13/32	200	50	\$.10
21	¾	13/32	100	35	.15
31	1	13/32	50	30	.25
41	1¼	13/32	25	25	.36
51	1½	13/32	10	20	.48
61	2	13/32	5	15	.60
81	2½ or 3	23/16	5	20	.80
91	3½ " 4	31/4	5	30	.90
1401	4½, 5 or 6	31/4	1	10	2.00

Special

A special cover with larger wire holes than the standard covers.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
11S	1½	5/8	200	50	\$.10
21S	¾	25/32	100	35	.15
31S	1	1	50	30	.25
41S	1¼	11/16	25	25	.36
51S	1½	13/32	10	20	.48
61S	2	13/32	5	15	.60
81S	2½ or 3	13/32	5	20	.80
91S	3½ " 4	13/32	5	30	.90

Duracord

Made in two sizes only for use with Duracord.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
11D	1½	17/32	200	50	\$.10
21D	¾	17/32	100	35	.15

2-wire Porcelain Condulet Covers

For Obround Condulet bodies. Furnished with screws.



Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
12	1½	3/8	200	50	\$.10
22	¾	15/32	100	35	.15
32	1	1½	50	30	.25
42	1¼	11/16	25	25	.36
52	1½	13/16	10	20	.48
62	2	1	5	15	.60
82	2½ or 3	17/16	5	20	.80
92	3½ " 4	15/16	5	30	.90
1402	4½, 5 or 6	21/4	1	10	2.00

3-wire Porcelain Condulet Covers



For Obround Condulet bodies. Furnished with screws.

Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
13	1½	5/8	200	50	\$.10
23	¾	15/32	100	35	.15
33	1	1½	50	30	.25
43	1¼	11/16	25	25	.36
53	1½	13/16	10	20	.48
63	2	1	5	15	.60
83	2½ or 3	17/16	5	20	.80
93	3½ " 4	15/16	5	30	.90
1403	4½, 5 or 6	21/4	1	10	2.00



4 and 5-wire Porcelain Condulet Covers



For Obround Condulet bodies.
Furnished with screws.

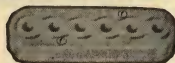
Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
1400	1 1/2	5/16	200	50	\$.10
2400	3/4	5/16	100	35	.15
3400	1	13/32	50	30	.25
4400	1 1/4	1 1/2	25	25	.36
5400	1 1/2	1 3/4	10	20	.48
6400	2	1 7/8	5	15	.60
8400	2 1/2 or 3	1 7/8	5	20	.80
9400	3 1/2 " 4	1 7/8	5	30	.90
1404	4 1/2, 5 or 6	1 7/8	1	10	2.00

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
2500	3/4	5/16	100	35	.15
3500	1	13/32	50	30	.25
4500	1 1/4	1 1/2	25	25	.36
5500	1 1/2	1 3/4	10	20	.48
6500	2	1 7/8	5	15	.60
8500	2 1/2 or 3	1 7/8	5	20	.80
9500	3 1/2 " 4	1 7/8	5	30	.90
1405	4 1/2, 5 or 6	1 7/8	1	10	2.00

6 and 7-wire Porcelain Condulet Covers

For Obround Condulet bodies.
Furnished with screws.



Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
2600	3/4	5/16	100	35	\$.15
3600	1	13/32	50	30	.25
4600	1 1/4	1 1/2	25	25	.36
5600	1 1/2	1 3/4	10	20	.48
6600	2	1 7/8	5	15	.60
8600	2 1/2 or 3	1 7/8	5	20	.80
9600	3 1/2 " 4	1 7/8	5	30	.90
1406	4 1/2, 5 or 6	1 7/8	1	10	2.00

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
3700	1	1 1/2	50	30	.25
4700	1 1/4	1 3/4	25	25	.36
5700	1 1/2	1 7/8	10	20	.48
6700	2	1 7/8	5	15	.60
8700	2 1/2 or 3	1 7/8	5	20	.80
9700	3 1/2 " 4	1 7/8	5	30	.90
1407	4 1/2, 5 or 6	1 7/8	1	10	2.00

8 and 9-wire Porcelain Condulet Covers



For Obround Condulet bodies.
Furnished with screws.

Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
3800	1	1 1/2	50	30	\$.25
4800	1 1/4	1 3/4	25	25	.36
5800	1 1/2	1 7/8	10	20	.48
6800	2	1 7/8	5	15	.60
8800	2 1/2 or 3	1 7/8	5	20	.80
9800	3 1/2 " 4	1 7/8	5	30	.90
1408	4 1/2, 5 or 6	1 7/8	1	10	2.00

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
3900	1	1 3/4	50	30	.25
4900	1 1/4	1 7/8	25	25	.36
5900	1 1/2	1 7/8	10	20	.48
6900	2	1 7/8	5	15	.60
8900	2 1/2 or 3	1 7/8	5	20	.80
9900	3 1/2 " 4	1 7/8	5	30	.90
1409	4 1/2, 5 or 6	1 7/8	1	10	2.00

Blank Metal Condulet Covers

Sheet Steel

For Obround Condulet bodies. Black enamel. Furnished with screws.

Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package.

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
100	1 1/2	200	30	\$.08
200	3/4	100	15	.11
300	1	50	10	.23
400	1 1/4	25	10	.32
500	1 1/2	10	10	.45
600	2	5	5	.56
800	2 1/2 or 3	5	10	.75
900	3 1/2 " 4	5	15	.80

Blank Metal Condulet Covers

Cast Iron, Flat

For Obround Condulet bodies. Black enamel. Furnished with screws.



Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package.

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
100f	1 1/2	200	50	\$.16
200f	3/4	100	40	.22
300f	1	50	30	.35
400f	1 1/4	25	25	.50
500f	1 1/2	10	15	.70
600f	2	5	10	.90
800f	2 1/2 or 3	5	10	1.15
900f	3 1/2 " 4	5	15	1.25

Blank Metal Condulet Covers

Cast Iron, Dome



For Obround Condulet bodies. Black enamel. Furnished with screws.

Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package.

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
100g	1 1/2	200	50	\$.16
200g	3/4	100	40	.22
300g	1	50	30	.35
400g	1 1/4	25	25	.50
500g	1 1/2	10	15	.70
600g	2	5	10	.90
800g	2 1/2 or 3	5	10	1.15
900g	3 1/2 " 4	5	15	1.25

Metal Condulet Covers with Nipples

For Obround Condulet bodies. Sheet steel with brass male nipple. Black enamel finish. Furnished with screws.



Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package, regardless of the style of cover.

1/8-inch Male

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
15	1 1/2	200	40	\$.20	45	1 1/4	25	15	\$.46
25	3/4	100	25	.25	55	1 1/2	10	10	.58
35	1	50	20	.35	...	...	...	...	...

1/4-inch Male

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
113	1 1/2	200	40	\$.23	413	1 1/4	25	15	\$.49
213	3/4	100	25	.28	513	1 1/2	10	10	.61
313	1	50	20	.38	...	...	...	...	...

3/8-inch Male

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
17	1 1/2	200	40	\$.25	47	1 1/4	25	15	\$.51
27	3/4	100	25	.30	57	1 1/2	10	10	.63
37	1	50	20	.40	...	...	...	...	...

1/2-inch Male

Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
215	3/4	100	25	\$.35	415	1 1/4	25	15	\$.56
315	1	50	20	.45	515	1 1/2	10	10	.68



Metal Condulet Covers with Nipples



For Obround Condulet bodies. Sheet steel with brass female nipple. Galvanized or enamel. Furnished with screws.

Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

1/8-inch Female

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
16	1/2	200	40	\$.20	46	1 1/4	25	15	\$.46
26	3/4	100	25	.25	56	1 1/2	10	10	.58
36	1	50	20	.35					

1/4-inch Female

114	1/2	200	40	\$.23	414	1 1/4	25	15	\$.49
214	3/4	100	25	.28	514	1 1/2	10	10	.61
314	1	50	20	.38					

3/8-inch Female

18	1/2	200	40	\$.25	48	1 1/4	25	15	\$.51
28	3/4	100	25	.30	58	1 1/2	10	10	.63
38	1	50	20	.40					

1/2-inch Female

216	3/4	100	25	\$.35	416	1 1/4	25	15	\$.56
316	1	50	20	.45	516	1 1/2	10	10	.68

1-wire Composition Condulet Covers

Standard

For Obround Condulet bodies. One piece. Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF11	1/2	1 3/8	200	50	\$.20
CF21	3/4	1 3/4	100	40	.30
CF31	1	1 7/8	50	30	.50
CF41	1 1/4	2 1/8	25	25	1.00
CF51	1 1/2	2 3/8	10	20	1.10
CF61	2	2 7/8	5	18	1.20
CF81	2 1/2 or 3	3 1/8	5	25	1.60
CF91	3 1/2 " 4	3 3/4	5	30	2.50
CF1401	4 1/2, 5 or 6	3 1/4	1	15	4.00

1-wire Composition Condulet Covers

Special

For Obround Condulet bodies. One piece. Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF11S	1/2	1 5/8	200	50	\$.20
CF21S	3/4	1 5/4	100	40	.30
CF31S	1	1 7/8	50	30	.50
CF41S	1 1/4	2 1/8	25	25	1.00
CF51S	1 1/2	2 3/8	10	20	1.10
CF61S	2	2 7/8	5	18	1.20
CF81S	2 1/2 or 3	3 1/8	5	25	1.60
CF91S	3 1/2 " 4	3 3/4	5	30	2.50

2-wire Composition Condulet Covers

For Obround Condulet bodies. One piece. Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF12	1/2	1 3/8	200	50	\$.20
CF22	3/4	1 3/4	100	40	.30
CF32	1	1 7/8	50	30	.50
CF42	1 1/4	2 1/8	25	25	1.00
CF52	1 1/2	2 3/8	10	20	1.10
CF62	2	2 7/8	5	18	1.20
CF82	2 1/2 or 3	3 1/8	5	25	1.60
CF92	3 1/2 " 4	3 3/4	5	30	2.50
CF1402	4 1/2, 5 or 6	2 1/4	1	15	4.00

3 and 4-wire Composition Condulet Covers



For Obround Condulet bodies. One piece. Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

3-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF13	1/2	1 3/8	200	50	\$.20
CF23	3/4	1 3/4	100	40	.30
CF33	1	1 7/8	50	30	.50
CF43	1 1/4	2 1/8	25	25	1.00
CF53	1 1/2	2 3/8	10	20	1.10
CF63	2	2 7/8	5	18	1.20
CF83	2 1/2 or 3	3 1/8	5	25	1.60
CF93	3 1/2 " 4	3 3/4	5	30	2.50
CF1403	4 1/2, 5 or 6	2 1/4	1	15	4.00

4-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF1400	1/2	1 5/8	200	50	\$.20
CF2400	3/4	1 5/4	100	40	.30
CF3400	1	1 7/8	50	30	.50
CF4400	1 1/4	2 1/8	25	25	1.00
CF5400	1 1/2	2 3/8	10	20	1.10
CF6400	2	2 7/8	5	18	1.20
CF8400	2 1/2 or 3	3 1/8	5	25	1.60
CF9400	3 1/2 " 4	3 3/4	5	30	2.50
CF1404	4 1/2, 5 or 6	2 1/8	1	15	4.00

5 and 6-wire Composition Condulet Covers

For Obround Condulet bodies. One piece. Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

5-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF2500	3/4	1 5/8	100	40	\$.30
CF3500	1	1 7/8	50	30	.50
CF4500	1 1/4	2 1/8	25	25	1.00
CF5500	1 1/2	2 3/8	10	20	1.10
CF6500	2	2 7/8	5	18	1.20
CF8500	2 1/2 or 3	3 1/8	5	25	1.60
CF9500	3 1/2 " 4	3 3/4	5	30	2.50
CF1405	4 1/2, 5 or 6	2 1/8	1	15	4.00

6-wire

CF2600	3/4	1 5/8	100	40	\$.30
CF3600	1	1 7/8	50	30	.50
CF4600	1 1/4	2 1/8	25	25	1.00
CF5600	1 1/2	2 3/8	10	20	1.10
CF6600	2	2 7/8	5	18	1.20
CF8600	2 1/2 or 3	3 1/8	5	25	1.60
CF9600	3 1/2 " 4	3 3/4	5	30	2.50
CF1406	4 1/2, 5 or 6	2 1/8	1	15	4.00

7 and 8-wire Composition Condulet Covers



For Obround Condulet bodies. One piece. Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

7-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF3700	1	2 1/8	50	30	\$.50
CF4700	1 1/4	2 3/8	25	25	1.00
CF5700	1 1/2	2 5/8	10	20	1.10
CF6700	2	2 7/8	5	18	1.20
CF8700	2 1/2 or 3	3 1/8	5	25	1.60
CF9700	3 1/2 " 4	3 3/4	5	30	2.50
CF1407	4 1/2, 5 or 6	2 3/8	1	15	4.00

8-wire

CF3800	1	2 3/8	50	30	\$.50
CF4800	1 1/4	2 5/8	25	25	1.00
CF5800	1 1/2	2 7/8	10	20	1.10
CF6800	2	2 9/8	5	18	1.20
CF8800	2 1/2 or 3	3 3/8	5	25	1.60
CF9800	3 1/2 " 4	3 5/4	5	30	2.50
CF1408	4 1/2, 5 or 6	2 3/4	1	15	4.00



Blank Composition Condulet Covers



For Obround Condulet bodies.

One piece.

Furnished with screws.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size Cover Inches	Std. Pkg. Assorted	Wt. Lbs. Std. Pkg.	Price Each
CF100	1/2	200	50	\$.20
CF200	3/4	100	40	.30
CF300	1	50	30	.50
CF400	1 1/4	25	25	1.00
CF500	1 1/2	10	20	1.10
CF600	2	5	18	1.20
CF800	2 1/2 or 3	5	25	1.60
CF900	3 1/2 " 4	5	30	2.50
CF14000	4 1/2, 5 or 6	1	15	4.00

Split Composition Condulet Covers



For Obround Condulet bodies. Furnished with screws. Can be installed after the wires have been pulled in and connected up. Can also be used to replace covers on existing installations when the number of wires in the conduit is to be changed; or to replace broken covers.

Composition Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

1-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CFR11	1/2	5/8	200	50	\$.40
CFR21	3/4	5/8	100	40	.60
CFR31	1	1 1/8	50	30	1.00
CFR41	1 1/4	1 3/8	25	30	2.00
CFR51	1 1/2	1 3/8	10	25	2.20
CFR61	2	1 3/4	5	20	2.40

2-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CFR12	1/2	3/8	200	50	.40
CFR22	3/4	1 1/8	100	40	.60
CFR32	1	1 1/2	50	30	1.00
CFR42	1 1/4	1 1/2	25	30	2.00
CFR52	1 1/2	1 1/2	10	25	2.20
CFR62	2	1 1/2	5	20	2.40

3-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CFR13	1/2	3/8	200	50	.40
CFR23	3/4	1 1/8	100	40	.60
CFR33	1	1 1/2	50	30	1.00
CFR43	1 1/4	1 1/2	25	30	2.00
CFR53	1 1/2	1 1/2	10	25	2.20
CFR63	2	1 1/2	5	20	2.40

4-wire

Cat. No.	Size Cover In.	Diam. Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CFR14	1/2	5/8	200	50	.40
CFR24	3/4	5/8	100	40	.60
CFR34	1	1 1/8	50	30	1.00
CFR44	1 1/4	1 3/8	25	30	2.00
CFR54	1 1/2	1 3/8	10	25	2.20
CFR64	2	1 3/4	5	20	2.40

Obround Cushion Fixture Hangers



For Condulet bodies of the Obround series.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
18h	200	40	\$.30
28h	100	25	.35

Porcelain Condulet Covers with Nipples



For Obround Condulet bodies.

With brass male nipple. Furnished with screws.

Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

1/8-inch Male

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
19	1/2	200	60	\$.25	49	1 1/4	25	40	\$.58
29	3/4	100	40	.30	59	1 1/2	10	25	.72
39	1	50	30	.43	...	...	...	...	...

1/4-inch Male

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
119	1/2	200	60	\$.30	419	1 1/4	25	40	\$.63
219	3/4	100	40	.35	519	1 1/2	10	25	.77
319	1	50	30	.48	...	...	...	...	...

3/8-inch Male

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
111	1/2	200	60	\$.35	411	1 1/4	25	40	\$.68
211	3/4	100	40	.41	511	1 1/2	10	25	.82
311	1	50	30	.53	...	...	...	...	...

1/2-inch Male

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
121	1/2	200	60	\$.40	421	1 1/4	25	40	\$.73
221	3/4	100	40	.46	521	1 1/2	10	25	.87
321	1	50	30	.58	...	...	...	...	...

Porcelain Condulet Covers with Nipples

For Obround Condulet bodies.

With brass female nipple. Furnished with screws.



Black enameled, galvanized, and porcelain Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

1/8-inch Female

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
110	1/2	200	60	\$.25	410	1 1/4	25	40	\$.58
210	3/4	100	40	.30	510	1 1/2	10	25	.72
310	1	50	30	.43	...	...	...	...	...

1/4-inch Female

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
120	1/2	200	60	\$.30	420	1 1/4	25	40	\$.63
220	3/4	100	40	.35	520	1 1/2	10	25	.77
320	1	50	30	.48	...	...	...	...	...

3/8-inch Female

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
112	1/2	200	60	\$.35	412	1 1/4	25	40	\$.68
212	3/4	100	40	.41	512	1 1/2	10	25	.82
312	1	50	30	.53	...	...	...	...	...

1/2-inch Female

Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	Size Cover In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
122	1/2	200	60	\$.40	422	1 1/4	25	40	\$.73
222	3/4	100	40	.46	522	1 1/2	10	25	.87
322	1	50	30	.58	...	...	...	...	...

Porcelain Covers

For Obround Condulet bodies. For use with drop cord and fixture pull switch.

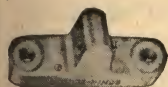


Has one wire hole and one 1/8-inch male nipple.

Furnished with screws.

Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size Cover In.	Diam. Wire Hole In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
191	1/2	13/32	200	55	\$.35
291	3/4	13/32	100	40	.40
391	1	1 1/2	50	30	.50

**Porcelain Condulet Covers**

For Obround Condulet bodies.
Has two wire holes and is for use with weatherproof socket.
Furnished with screws.

Porcelain, black enameled, and galvanized Obround covers of the same size may be assorted to make a standard package regardless of style of cover.

Cat. No.	Size Cover, In.	Diam. Wire Hole, In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
14	1/2	5/16	200	50	\$.16
24	3/4	5/16	100	35	.25
34	1	5/16	50	25	.40

Obround Condulettos

Lamp receptacle with shade holder groove. For Obround Condulet bodies. Furnished with screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR16	1/2	200	100	\$.30
JR26	3/4	100	60	.35
JR36	1	50	55	.40

Obround Condulettos

Lamp receptacle without shade holder groove. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR17	1/2	200	100	\$.25
JR27	3/4	100	60	.30
JR37	1	50	55	.35

Obround Condulettos

Fixture rosette with 1/8-inch male nipple. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR19	1/2	100	65	\$.40
JR29	3/4	100	70	.45
JR39	1	50	45	.50

Obround Condulettos

Fixture rosette with 1/8-inch female nipple. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR18	1/2	100	65	\$.40
JR28	3/4	100	70	.45
JR38	1	50	45	.50

Obround Condulettos

Fixture rosette with 3/8-inch male nipple. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR111	1/2	100	65	\$.40
JR211	3/4	100	70	.45
JR311	1	50	45	.50

Obround Condulettos

Fixture rosette with 3/8-inch female nipple. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR112	1/2	100	65	\$.40
JR212	3/4	100	70	.45
JR312	1	50	45	.50

Obround Condulettos

Cord rosette with one outlet. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR11	1/2	200	120	\$.30
JR21	3/4	100	65	.35
JR31	1	50	50	.40

**Obround Condulettos**

Cord rosette with two outlets. For Obround Condulet bodies. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR131	1/2	100	60	\$.35
JR231	3/4	100	65	.40
JR331	1	50	50	.45

Obround Condulettos

Polarity plug receptacle, Hubbell 6-ampere. For Obround Condulet bodies. Furnished with screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR125	1/2	100	60	\$.40
JR225	3/4	100	70	.45
JR325	1	50	45	.50

Obround Condulettos

Polarity plug receptacle, Hubbell 20-ampere. For Obround Condulet bodies. Furnished with screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR12	1/2	100	60	\$.55
JR22	3/4	100	70	.60
JR32	1	50	45	.65

Obround Condulettos

Attachment plug receptacle, Hubbell 6-ampere. For Obround Condulet bodies. Furnished with screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JR15	1/2	100	60	\$.40
JR25	3/4	100	70	.45
JR35	1	50	45	.50

Gaskets for Obround Condulet Bodies

Cat. No.	Size In.	Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Price Each
Gask. 1	1/2	200	\$.10	Gask. 6	2	25	\$.25
" 2	3/4	100	.10	" 8	2 1/2 or 3	25	.40
" 3	1	50	.15	" 9	3 1/2 " 4	25	.50
" 4	1 1/4	25	.20	" 86	4 1/2, 5 or 6	25	.70
" 5	1 1/2	25	.20	.....	.....	.....	.....

Gaskets for Obround Condulet Bodies

For use with sheet steel covers.

Cat. No.	Size In.	Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Price Each
Gask. 158	1/2	200	\$.10	Gask. 163	2	25	\$.40
" 159	3/4	100	.10	" 164	2 1/2 or 3	25	.60
" 160	1	50	.15	" 165	3 1/2 " 4	25	1.00
" 161	1 1/4	25	.20	" 166	4 1/2, 5 or 6	25	1.50
" 162	1 1/2	25	.20	.....	.....	.....	.....

Gaskets for Obround Condulet Bodies

For use between cap and base of Conduletto attachment or polarity plug receptacles, or any two-part Condulettos.

Cat. No.	Size In.	Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Price Each
Gask. 31	1/2	200	\$.10	Gask. 33	1	50	\$.15
" 32	3/4	100	.10	.....	.....	.....	.....

Gaskets for Obround Condulet Bodies

For use between Condulet bodies and threaded couplings of types F or FE Condulets.

Cat. No.	Size In.	Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Price Each
Gask. 11	1/2	100	\$.05	Gask. 15	1 1/2	25	\$.10
" 12	3/4	100	.05	" 16	2	25	.15
" 13	1	50	.08	" 17	2 1/2 or 3	25	.20
" 14	1 1/4	25	.10	" 19	3 1/2 " 4	25	.25



Type BC Mogul Condulet Bodies



Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding

through a conduit system.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BC3	1	25	90	\$1.90
BC4	1 1/4	10	40	2.15
BC5	1 1/2	10	80	4.15
BC6	2	5	50	5.00
BC7	2 1/2	5	85	9.30
BC8	3	5	100	11.00
BC9	3 1/2	5	165	22.00
BC10	4	5	180	24.00

Type BTB Mogul Condulet Bodies



Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BTB3	1	25	105	\$2.25
BTB4	1 1/4	10	55	2.50
BTB5	1 1/2	10	90	4.65
BTB6	2	5	60	5.60
BTB7	2 1/2	5	100	10.40
BTB8	3	5	120	12.25
BTB9	3 1/2	5	190	28.00
BTB10	4	5	210	30.00

Type BEE Mogul Condulet Bodies

Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BEE3	1	25	75	\$1.70
BEE4	1 1/4	10	35	1.90
BEE5	1 1/2	10	70	3.70
BEE6	2	5	45	4.50
BEE7	2 1/2	5	75	8.15
BEE8	3	5	85	9.75
BEE9	3 1/2	5	140	17.00
BEE10	4	5	150	19.00

Type BU Mogul Condulet Bodies

Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BU3	1	25	90	\$1.90
BU4	1 1/4	10	45	2.15
BU5	1 1/2	10	80	4.15
BU6	2	5	50	5.00
BU7	2 1/2	5	85	9.30
BU8	3	5	100	11.00
BU9	3 1/2	5	165	22.00
BU10	4	5	180	24.00

Type BLB Mogul Condulet Bodies



Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BLB3	1	25	90	\$1.90
BLB4	1 1/4	10	40	2.15
BLB5	1 1/2	10	80	4.15
BLB6	2	5	50	5.00
BLB7	2 1/2	5	85	9.30
BLB8	3	5	100	11.00
BLB9	3 1/2	5	165	22.00
BLB10	4	5	180	24.00

Type BUB Mogul Condulet Bodies



Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BUB3	1	25	90	\$1.90
BUB4	1 1/4	10	45	2.15
BUB5	1 1/2	10	80	4.15
BUB6	2	5	50	5.00
BUB7	2 1/2	5	85	9.30
BUB8	3	5	100	11.00
BUB9	3 1/2	5	165	22.00
BUB10	4	5	180	24.00

Type BT Mogul Condulet Bodies

Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BT3	1	25	105	\$2.25
BT4	1 1/4	10	55	2.50
BT5	1 1/2	10	90	4.65
BT6	2	5	60	5.60
BT7	2 1/2	5	100	10.40
BT8	3	5	120	12.25
BT9	3 1/2	5	190	28.00
BT10	4	5	210	30.00

Type BUF Mogul Condulet Bodies

Galvanized or black enamel finish.

Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BUF3	1	25	90	\$1.90
BUF4	1 1/4	10	45	2.15
BUF5	1 1/2	10	80	4.15
BUF6	2	5	50	5.00
BUF7	2 1/2	5	85	9.30
BUF8	3	5	100	11.00
BUF9	3 1/2	5	165	22.00
BUF10	4	5	180	24.00



Type BX Mogul Condulet Bodies



Galvanized or enamel.
Take Mogul covers. Have an unusually long cover opening to avoid kinking heavy wires when pulling in or feeding through a conduit system.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BX3	1	25	125	\$2.50
BX4	1 1/4	10	60	2.75
BX5	1 1/2	10	100	5.15
BX6	2	5	70	6.25
BX7	2 1/2	5	110	11.60
BX8	3	5	140	13.90
BX9	3 1/2	5	210	35.00
BX10	4	5	235	38.00

1-wire Composition Covers

For Mogul Condulet bodies.
Furnished with screws.



Cat. No.	Size In.	Diam. Wire Hole, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF241	1 or 1 1/4	1 5/16	10	25	\$1.90
CF261	1 1/2 " 2	2	5	15	3.50
CF281	2 1/2 " 3	2 5/8	5	20	5.50
CF291	3 1/2 " 4	2 5/8	5	30	8.25

2 and 3-wire Composition Covers



For Mogul Condulet bodies.
Furnished with screws.

Composition, black enameled, and galvanized Mogul covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size In.	Diam. Wire Hole, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF242	1 or 1 1/4	1 5/16	10	25	\$1.90
CF262	1 1/2 " 2	1 1/8	5	15	3.50
CF282	2 1/2 " 3	1 1/2	5	20	5.50
CF292	3 1/2 " 4	2	5	30	8.25

Cat. No.	Size In.	Diam. Wire Hole, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF243	1 or 1 1/4	2 1/8	10	25	\$1.90
CF263	1 1/2 " 2	1	5	15	3.50
CF283	2 1/2 " 3	1 3/8	5	20	5.50
CF293	3 1/2 " 4	1 3/8	5	30	8.25

4, 5 and 6-wire Composition Covers

For Mogul Condulet bodies.
Furnished with screws.



Composition, black enameled, and galvanized Mogul covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size In.	Diam. Wire Hole, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF244	1 or 1 1/4	1 3/8	10	25	\$1.90
CF264	1 1/2 " 2	7/8	5	15	3.50
CF284	2 1/2 " 3	1 1/4	5	20	5.50
CF294	3 1/2 " 4	1 5/8	5	30	8.25

Cat. No.	Size In.	Diam. Wire Hole, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF245	1 or 1 1/4	1 1/2	10	25	\$1.90
CF265	1 1/2 " 2	3/4	5	15	3.50
CF285	2 1/2 " 3	1 1/8	5	20	5.50
CF295	3 1/2 " 4	1 1/8	5	30	8.25

Cat. No.	Size In.	Diam. Wire Hole, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF246	1 or 1 1/4	1 1/2	10	25	\$1.90
CF266	1 1/2 " 2	1 1/8	5	15	3.50
CF286	2 1/2 " 3	1	5	20	5.50
CF296	3 1/2 " 4	1 3/8	5	30	8.25

7, 8 and 9-wire Composition Covers



For Mogul Condulet bodies.
Furnished with screws.

Composition, black enameled, or galvanized Mogul covers of the same size may be assorted to make a standard package, regardless of style of cover.

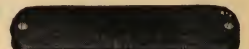
Cat. No.	Size In.	Diam. Hole, In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF247	1 or 1 1/4	1 1/2	10	25	\$1.90
CF267	1 1/2 " 2	1 1/8	5	15	3.50
CF287	2 1/2 " 3	1	5	20	5.50
CF297	3 1/2 " 4	1 3/8	5	30	8.25

Cat. No.	Size In.	Diam. Hole, In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF248	1 or 1 1/4	7/16	10	25	\$1.90
CF268	1 1/2 " 2	5/8	5	15	3.50
CF288	2 1/2 " 3	7/8	5	20	5.50
CF298	3 1/2 " 4	1 3/16	5	30	8.25

Cat. No.	Size In.	Diam. Hole, In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF249	1 or 1 1/4	3/8	10	25	\$1.90
CF269	1 1/2 " 2	9/16	5	15	3.50
CF289	2 1/2 " 3	13/16	5	20	5.50
CF299	3 1/2 " 4	1 1/16	5	30	8.25

Blank Composition Covers

For Mogul Condulet bodies.
Furnished with screws.



Cat. No.	Size In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
CF240	1 or 1 1/4	10	25	\$1.90
CF260	1 1/2 " 2	5	15	3.50
CF280	2 1/2 " 3	5	20	5.50
CF290	3 1/2 " 4	5	30	8.25

Blank Cast Iron Covers

Without Gasket



For Mogul Condulet bodies.
Galvanized or enamel.

No gaskets are furnished with these covers, nor can they be used with gaskets.

Screws are included with covers.

Black enameled, galvanized, and composition Mogul covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
BG47	1 or 1 1/4	10	35	\$1.10
BG67	1 1/2 " 2	5	25	1.75
BG87	2 1/2 " 3	5	40	4.00
BG97	3 1/2 " 4	5	55	6.00

Blank Cast Iron Covers

With Gasket

For Mogul Condulet bodies.

Galvanized or enamel.

These covers are designed for use with gaskets, which are furnished.

Screws are included with covers.

Black enameled, galvanized, and composition Mogul covers of the same size may be assorted to make a standard package, regardless of style of cover.

Cat. No.	Size In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
BG48	1 or 1 1/4	10	40	\$1.50
BG68	1 1/2 " 2	5	30	2.40
BG88	2 1/2 " 3	5	45	5.40
BG98	3 1/2 " 4	5	60	7.50



Type G Condulet Bodies



With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
G151	5	1 1/2	100	120	\$.55
G252	5	3/4	50	75	\$.65
G353	5	1	25	45	\$.90
G1101	10	1 1/2	50	55	\$.65
G2102	10	3/4	25	50	\$.80
G3103	10	1	25	55	1.00
G1201	20	1 1/2	50	75	\$.90
G2202	20	3/4	25	55	\$.95
G3203	20	1	25	65	1.20

Type GA Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GA151	5	1 1/2	100	125	\$.75
GA252	5	3/4	50	90	\$.85
GA353	5	1	25	55	1.10
GA1101	10	1 1/2	50	70	\$.85
GA2102	10	3/4	25	55	1.00
GA3103	10	1	25	60	1.20
GA1201	20	1 1/2	50	75	1.10
GA2202	20	3/4	25	65	1.20
GA3203	20	1	25	70	1.50

Type GL Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000. Furnished with adjustable bar and screws.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GL151	5	1 1/2	100	120	\$.60
GL252	5	3/4	50	75	\$.70
GL353	5	1	25	40	\$.95
GL1101	10	1 1/2	50	55	\$.70
GL2102	10	3/4	25	50	\$.85
GL3103	10	1	25	50	1.05
GL1201	20	1 1/2	50	75	\$.95
GL2202	20	3/4	25	55	1.05
GL3203	20	1	25	65	1.35

Type GT Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GT151	5	1 1/2	100	125	\$.75
GT252	5	3/4	50	90	\$.85
GT353	5	1	25	55	1.10
GT1101	10	1 1/2	50	70	\$.85
GT2102	10	3/4	25	55	1.00
GT3103	10	1	25	60	1.20
GT1201	20	1 1/2	50	75	1.10
GT2202	20	3/4	25	65	1.20
GT3203	20	1	25	70	1.50

Type GX Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GX151	5	1 1/2	100	155	\$.90
GX252	5	3/4	50	100	1.00
GX353	5	1	25	60	1.35
GX1101	10	1 1/2	50	75	1.00
GX2102	10	3/4	25	60	1.15
GX3103	10	1	25	70	1.45
GX1201	20	1 1/2	50	75	1.25
GX2202	20	3/4	25	70	1.40
GX3203	20	1	25	75	1.80

Type H Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H Series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
H15	5	1 1/2	100	115	\$.45
H25	5	3/4	50	70	\$.55
H35	5	1	25	40	\$.80
H110	10	1 1/2	50	50	\$.55
H210	10	3/4	25	45	\$.70
H310	10	1	25	50	\$.90
H120	20	1 1/2	50	70	\$.80
H220	20	3/4	25	50	\$.85
H320	20	1	25	55	1.10

Type HA Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
HA15	5	1 1/2	100	115	\$.50
HA25	5	3/4	50	70	\$.60
HA35	5	1	25	40	\$.85
HA110	10	1 1/2	50	50	\$.60
HA210	10	3/4	25	45	\$.75
HA310	10	1	25	50	\$.95
HA120	20	1 1/2	50	70	\$.85
HA220	20	3/4	25	50	\$.90
HA320	20	1	25	55	1.20

Type HH Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
HH151	5	1 1/2	100	120	\$.55
HH252	5	3/4	50	75	\$.65
HH353	5	1	25	50	\$.90
HH1101	10	1 1/2	50	60	\$.65
HH2102	10	3/4	25	50	\$.80
HH3103	10	1	25	55	1.00
HH1201	20	1 1/2	50	75	\$.90
HH2202	20	3/4	25	60	\$.95
HH3203	20	1	25	65	1.20



Type HHC Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
HHC151	5	1/2	100	125	\$.75
HHC252	5	3/4	50	80	.85
HHC353	5	1	25	55	1.10
HHC1101	10	1/2	50	75	.85
HHC2102	10	3/4	25	55	1.00
HHC3103	10	1	25	65	1.20
HHC1201	20	1/2	50	80	1.10
HHC2202	20	3/4	25	65	1.20
HHC3203	20	1	25	75	1.50

Type HLA Condulet Bodies

With Adjustable Bar

Galvanized or enamel. Take covers or round base wiring devices. For wiring devices see pages 414 to 417, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series with adjustable bar make a standard package.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
HLA15	5	1/2	100	120	\$.60
HLA25	5	3/4	50	75	.70
HLA35	5	1	25	50	.95
HLA110	10	1/2	50	60	.70
HLA210	10	3/4	25	50	.85
HLA310	10	1	25	55	1.05
HLA120	20	1/2	50	75	.95
HLA220	20	3/4	25	60	1.05
HLA320	20	1	25	65	1.35

1 and 2-wire Porcelain Covers



For Condulet bodies of the G-H series with adjustable bar, Z series, and types FH and FHF. Furnished with screws.

Porcelain, black enameled, and galvanized covers of the same size may be assorted to make a standard package, regardless of style of cover. Any assortment of 250 of these covers will be considered a standard package.

1-wire for Form 5 or Form 10 Bodies

Cat. No.	Diam. Wire Holes, In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
5101	1 1/2	100	40	\$.15

2-wire for Form 5 or Form 10 Bodies

5102	5/8	100	40	.15
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1-wire for Form 20 Bodies

201	1 1/2	50	40	.35
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2-wire for Form 20 Bodies

202	5/8	50	40	.35
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3 and 4-wire Porcelain Covers



For Condulet bodies of the G-H series with adjustable bar, Z series, and types FH and FHF. Furnished with screws.

Porcelain, black enameled, and galvanized covers of the same size may be assorted to make a standard package, regardless of style of cover. Any assortment of 250 of these covers will be considered a standard package.

3-wire for Form 5 or Form 10 Bodies

Cat. No.	Diam. Wire Holes, In.	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
5103	5/8	100	40	\$.15

4-wire for Form 5 or Form 10 Bodies

510400	5/8	100	40	.15
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3-wire for Form 20 Bodies

203	5/8	50	40	.35
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4-wire for Form 20 Bodies

20400	5/8	50	40	.35
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Porcelain Covers with Nipples



With brass male nipple. For Condulet bodies of the G-H series with adjustable bar, Z series, and types FH and FHF. Furnished with screws.

Porcelain, black enameled and galvanized covers of the same size may be assorted to make a standard package, regardless of style of cover. Any assortment of 250 of these covers will be considered a standard package.

Cat. No.	For Form	Size Nipple Inches	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
5109	5 or 10	1/8	100	45	\$.25
51019	5 " 10	1/4	100	45	.30
51011	5 " 10	3/8	100	45	.35
51021	5 " 10	1/2	100	45	.40
209	20	1/8	50	45	.45
2019	20	1/4	50	45	.50
2011	20	3/8	50	45	.60
2021	20	1/2	50	45	.65

Porcelain Covers with Nipples

With brass female nipple. For Condulet bodies of the G-H series with adjustable bar, Z series, and types FH and FHF. Furnished with screws.



Porcelain, black enameled, and galvanized covers of the same size may be assorted to make a standard package, regardless of style of cover. Any assortment of 250 of these covers will be considered a standard package.

Cat. No.	For Form	Size, Nipple Inches	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
51010	5 or 10	1/8	100	45	\$.25
51020	5 " 10	1/4	100	45	.30
51012	5 " 10	3/8	100	45	.35
51022	5 " 10	1/2	100	45	.40
2010	20	1/8	50	45	.45
2020	20	1/4	50	45	.50
2012	20	3/8	50	45	.60
2022	20	1/2	50	45	.65

Metal Covers with Nipples



Sheet steel with brass nipple. For Condulet bodies of the G-H series with adjustable bar, Z series, and types FH and FHF. Furnished with screws.

Black enameled, galvanized, and porcelain covers of the same size may be assorted to make a standard package, regardless of style of cover. Any assortment of 250 of these covers will be considered a standard package.

For Form 5 and Form 10 Bodies

Cat. No.	Size Nipple	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
5105	1/8-inch Male	100	30	\$.20
51013	1/4 " "	100	30	.25
5107	3/8 " "	100	30	.30
51015	1/2 " "	100	30	.35
5106	1/8 " Female	100	30	.20
51014	1/4 " "	100	30	.25
5108	3/8 " "	100	30	.30
51016	1/2 " "	100	30	.35

For Form 20 Bodies

205	1/8-inch Male	50	35	\$.30
2013	1/4 " "	50	35	.35
207	3/8 " "	50	35	.40
2015	1/2 " "	50	35	.45
206	1/8 " Female	50	35	.30
2014	1/4 " "	50	35	.35
208	3/8 " "	50	35	.40
2016	1/2 " "	50	35	.45

Blank Metal Covers

Galvanized or enamel. For Condulet bodies of the G-H series with adjustable bar, Z series, and types FH and FHF. Furnished with screws.



SHEET STEEL					CAST IRON				
Cat. No.	For Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cat. No.	For Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
51000	5 or 10	100	20	.10	51000g	5 or 10	100	30	\$.20
2000	20	50	20	.25	2000g	20	50	30	.35



G-H Series Condulet Bodies

Without Adjustable Bar

The bodies of the G-H series without adjustable bar differ from those with the adjustable bar in the following particulars:

First, the adjustable bar is omitted; second, the flange of the body is drilled and tapped for four screws.

This series does not have so wide a range of application as the series with the adjustable bar; the variety of wiring devices which can be mounted is limited to those whose fastening screw hole centers are the same as those of the Condulet bodies to which they are to be attached.

A complete series of covers, connection blocks, and Conduletts is made for use with the Condulet bodies of this series.

The fastening screws are furnished with, and so retained in the covers, connection blocks and Conduletts that they cannot fall out.

Wiring devices, page 418, Condulet catalogue No. 2000

Type G Condulet Bodies



Without Adjustable Bar

Galvanized or enamel. Take covers, Conduletts or other wiring

devices, see page 418, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series without adjustable bar will be considered a standard package.

Cat. No.	Form	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
G157	5	1 1/2	100	115	\$.40
G257	5	3/4	50	75	.50
G357	5	1	25	40	.75
G117	10	1 1/2	50	55	.50
G217	10	3/4	25	50	.65
G317	10	1	25	50	.85
G127	20	1 1/2	50	75	.70
G227	20	3/4	25	55	.75
G327	20	1	25	65	1.00

Type GL Condulet Bodies

Without Adjustable Bar

Galvanized or enamel. Take covers, and Conduletts. Also other wiring devices, see page 418, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series without adjustable bar will be considered a standard package.

Cat. No.	Form	Size Inches	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GL157	5	1 1/2	100	115	\$.45
GL257	5	3/4	50	75	.55
GL357	5	1	25	40	.80
GL117	10	1 1/2	50	55	.55
GL217	10	3/4	25	50	.70
GL317	10	1	25	50	.90
GL127	20	1 1/2	50	75	.75
GL227	20	3/4	25	55	.85
GL327	20	1	25	65	1.15

Type GT Condulet Bodies

Without Adjustable Bar

Galvanized or enamel. Take covers and Conduletts. Also other wiring devices, see page 418, Condulet catalogue No. 2000.

250 assorted bodies of the G-H series without adjustable bar will be considered a standard package.

Cat. No.	Form	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GT157	5	1 1/2	100	120	\$.60
GT257	5	3/4	50	90	.70
GT357	5	1	25	55	.95
GT117	10	1 1/2	50	70	.70
GT217	10	3/4	25	55	.85
GT317	10	1	25	60	1.05
GT127	20	1 1/2	50	75	.90
GT227	20	3/4	25	65	1.00
GT327	20	1	25	70	1.30

Type H Condulet Bodies

Without Adjustable Bar



Galvanized or enamel. Take covers and Conduletts. Also other wiring devices, see page 418, Condulet catalogue No. 2000. 250 assorted bodies of the G-H series without adjustable bar

will be considered a standard package.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
H157	5	1 1/2	100	110	\$.30
H257	5	3/4	50	70	.40
H357	5	1	25	45	.65
H117	10	1 1/2	50	55	.40
H217	10	3/4	25	45	.55
H317	10	1	25	50	.75
H127	20	1 1/2	50	70	.60
H227	20	3/4	25	50	.65
H327	20	1	25	55	.90

Conduletto Connection Blocks

For form 5 bodies of the G-H series without adjustable bar. Furnished with screws.

Porcelain

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
H535	Complete	100	90	\$.40
H533	Base Only	100	60	.25

Composition

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
H555	Complete	100	95	.50
H545	Base Only	100	65	.30



Conduletto Lamp Receptacles

With connection block, for form 5 bodies of the G-H series without adjustable bar. With screws.

If specified, will be furnished with lamp grip at slight addition to list price.

Standard package, 100; weight, standard package, 100 pounds.

Price, No. H546, with Shade Holder Groove....each \$.50
" " H547, without Shade Holder Groove... ".45



No. H546

Porcelain Conduletto Fixture Rosettes

With Male Nipple

With connection block, for form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

Cat. No.	Size, Nipple In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
H549	1/8	100	90	\$.55
H551	3/8	100	90	.65



Porcelain Conduletto Fixture Rosettes

With Female Nipple

With connection block, for form 5 bodies of the G-H series without adjustable bar. With screws.

Cat. No.	Size, Nipple In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
H548	1/8	100	90	\$.55
H552	3/8	100	90	.65



Composition Conduletto Fixture Rosettes

With 3/8-inch Male Nipple

With connection block, for form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

Standard package, 100.

Weight, standard package, 90 pounds.

Price, No. H571.....each \$.75

Composition Conduletto Fixture Rosettes

With 3/8-inch Female Nipple

With connection block, for form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

Standard package, 100.

Weight, standard package, 90 pounds.

Price, No. H572.....each \$.75



**Conduletto Cord Rosettes**

With connection block, for form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

Standard package, 100.

Weight, standard package, 90 pounds.

Price, No. H553, Porcelain.....each \$.40
" " H554, Composition....." .50

Conduletto Lamp Receptacles

One piece porcelain. Without connection block. For form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

A gasket can be used between the body and the lamp receptacle to make the installation weatherproof. Standard package, 100; weight, standard package, 55 pounds.

Price, No. H556, with Shade Holder Groove.....each \$.25

Receptacle Metal Covers**Galvanized or Enamel**

For form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

Take lamp receptacle No. H557.

Standard package, 50.

Weight, standard package, 60 pounds.

Price, No. H558.....each \$.50

Receptacle Metal Covers**Galvanized or Enamel**

For 2 1/4-inch shade holder. For form 5 bodies of the G-H series without adjustable bar.

Furnished with screws.

Takes lamp receptacle No. H557.

Standard package, 50.

Weight, standard package, 70 pounds.

Price, No. H559.....each \$.80

**Receptacle Metal Covers****Cast Iron—Galvanized or Enamel**

For form 10 bodies of the G-H series without adjustable bar. Furnished with screws.

Takes sign receptacle.

Standard package, 50.

Weight, standard package, 70 pounds.

Price, No. H1032.....each \$.50

Blank Metal Covers**Sheet Steel—Galvanized or Enamel**

For forms 5, 10 and 20 bodies of the G-H series without adjustable bar. Furnished with screws.

Cat. No.	For Form	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
H500	5	100	30	\$.15
H1000	10	100	35	.20
H2000	20	50	40	.25

**Blank Metal Covers****Cast Iron—Galvanized or Enamel**

For forms 5, 10 and 20 bodies of the G-H series without adjustable bar. Furnished with screws.

Cat. No.	For Form	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
H531	5	100	40	\$.25
H1031	10	100	45	.30
H2031	20	50	50	.40

**1-wire Porcelain Covers**

For forms 5, 10 and 20 bodies of the G-H series without adjustable bar. Furnished with screws.

Cat. No.	For Form	Diam. Wire Hole	Std. Pkg. Assorted	Wt., Lbs. Std. Pkg.	Price Each
H51	5	1 3/8	100	45	\$.20
H101	10	1 3/8	100	50	.25
H201	20	1 3/8	50	65	.40

**Midget Guard and Receptacle Holders****Pendent**

For bodies of the G-H series without adjustable bar. Furnished with screws.

Standard package, 25.

Weight, standard package, 25 pounds.

Price, No. RMP3 for Nos. HGV3595 and HGV-3597.....each \$.30
Price, No. RMP4 for No. HGV4598....." .30

Midget Guard and Receptacle Holders**Bracket**

For bodies of the G-H series without adjustable bar. Furnished with screws.

Standard package, 25.

Weight, Standard package, 35 pounds.

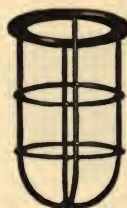
Price, No. HGH7 for Nos. HGH7591 and HGH-7593.....each \$1.00
Price, No. HGH8 for No. HGH8594....." 1.00

Midget Guards

For G-H and G-S Midget Fixtures.

Cat. No.	Lth. In.	For Fixtures	For Lamps	Price Each
HGV95	5 3/8	RMP3, HGH7, GS111	G13 1/2 or Mini P19	\$1.40
HGV97	7 1/8	RMP3, HGH7, GS111	50-watt Mazda B	1.45
HGV98	7 1/2	RMP4, HGH8,	75 " " C	1.50

Standard package, 25; weight, standard package, 35 pounds.

**Midget Fixture Receptacles**

For G-H Midget Guard Fixtures.

If so specified, will be furnished with lamp grip at a slight advance in list price.

Standard package, 200.

Weight, standard package, 85 pounds.

Price, No. PE55.....each \$.40

**Type HV Guard Fixtures**

For form 20' bodies of the G-H series without adjustable bar. Consists of holder, receptacle No. C337, guard, gaskets and screws.

Cat. No.	Length of Guard, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
HV294	4 5/8	25	55	\$2.30
HV296	6 1/4	25	60	2.40

**Holder Only**

For form 20 bodies of the G-H series without adjustable bar.

Furnished with screws.

Standard package, 25.

Weight, standard package, 25 pounds.

Price, No. RMP2.....each \$.50

**Type HV Guards**

For RMP2 Holder.

Cat. No.	Length of Guard, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
HV94	4 5/8	25	25	\$1.40
HV96	6 1/4	25	30	1.50

**Lamp Receptacle Conduletto**

For HV guard fixture without shade holder groove.

If specified, will be furnished with lamp grip, at slight addition in price.

Standard package, 200.

Weight, standard package, 90 pounds.

Price, No. C337.....each \$.40





Type GS Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Wiring devices, pages 419 and 420, Condulet catalogue No. 2000. Also furnished with lugs in certain types.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS15	5	1/2	25	65	\$.90
GS25	5	3/4	25	70	1.05
GS35	5	1	10	30	1.25
GS110	10	1/2	25	70	1.00
GS210	10	3/4	25	75	1.15
GS310	10	1	10	35	1.35
GS120	20	1/2	25	90	1.50
GS220	20	3/4	25	95	1.65
GS320	20	1	10	45	1.85

Type GSA Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Wiring devices, pages 419 and 420, Condulet catalogue No. 2000.

With fastening strap and screws for wiring devices. Also furnished with lugs in certain types.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSA15	5	1/2	25	65	\$.90
GSA25	5	3/4	25	70	1.05
GSA35	5	1	10	30	1.25
GSA110	10	1/2	25	70	1.00
GSA210	10	3/4	25	75	1.15
GSA310	10	1	10	35	1.35
GSA120	20	1/2	25	90	1.50
GSA220	20	3/4	25	95	1.65
GSA320	20	1	10	45	1.85



Type GSSC Condulet Bodies

Iron, galvanized or enamel.

Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks.

With fastening strap and screws for wiring devices. For wiring devices see pages 419 and 420, Condulet catalogue No. 2000. Also furnished with lugs in certain types.

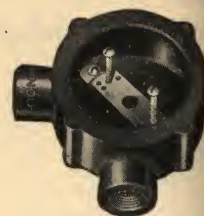
Cat. No.	Form	Size In.	Std. Pkg.	Wt. Pkg.	Price Each
GSSC15	5	1/2	25	75	\$1.20
GSSC25	5	3/4	25	80	1.35
GSSC35	5	1	10	35	1.55
GSSC110	10	1/2	25	80	1.30
GSSC210	10	3/4	25	85	1.50
GSSC310	10	1	10	40	1.70
GSSC120	20	1/2	25	100	1.80
GSSC220	20	3/4	25	105	2.00

Types GSL Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks.

With fastening strap and screws for wiring devices. For wiring devices see pages 419 and 420, Condulet catalogue No. 2000. Also furnished with lugs in certain types.

Cat. No.	Form	Size In.	Std. Pkg.	Wt. Pkg.	Price Each
GSL15	5	1/2	25	70	\$1.00
GSL25	5	3/4	25	75	1.15
GSL35	5	1	10	30	1.35
GSL110	10	1/2	25	75	1.10
GSL210	10	3/4	25	80	1.25
GSL310	10	1	10	35	1.45
GSL120	20	1/2	25	95	1.60
GSL220	20	3/4	25	100	1.75
GSL320	20	1	10	50	1.95



Type GSC Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Wiring devices, pages 419 and 420, Condulet catalogue No. 2000.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSC15	5	1/2	25	70	\$1.00
GSC25	5	3/4	25	75	1.15
GSC35	5	1	10	30	1.35
GSC110	10	1/2	25	75	1.10
GSC210	10	3/4	25	80	1.25
GSC310	10	1	10	35	1.45
GSC120	20	1/2	25	95	1.60
GSC220	20	3/4	25	100	1.75
GSC320	20	1	10	50	1.95

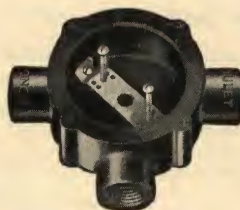
Any assortment of 100 black enameled and galvanized bodies of the GS series except 2 and 3-gang, make std. pkg.

Type GSS Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Wiring devices, pages 419 and 420, Condulet catalogue No. 2000.

With fastening strap and screws for wiring devices. Also furnished with lugs in certain types.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSS15	5	1/2	25	70	\$1.00
GSS25	5	3/4	25	75	1.15
GSS35	5	1	10	30	1.35
GSS110	10	1/2	25	75	1.10
GSS210	10	3/4	25	80	1.25
GSS310	10	1	10	35	1.45
GSS120	20	1/2	25	95	1.60
GSS220	20	3/4	25	100	1.75
GSS320	20	1	10	50	1.95



Type GST Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks.

With fastening strap and screws for wiring devices. For wiring devices see pages 419 and 420, Condulet catalogue No. 2000. Also furnished with lugs in certain types.

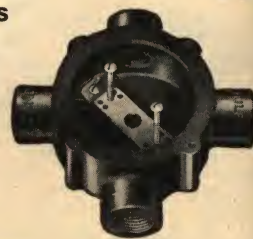
Cat. No.	Form	Size In.	Std. Pkg.	Wt. Pkg.	Price Each
GST15	5	1/2	25	75	\$1.20
GST25	5	3/4	25	80	1.35
GST35	5	1	10	35	1.55
GST110	10	1/2	25	80	1.30
GST210	10	3/4	25	85	1.50
GST310	10	1	10	40	1.70
GST120	20	1/2	25	100	1.80
GST220	20	3/4	25	105	2.00
GST320	20	1	10	55	2.30

Type GSX Condulet Bodies

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks.

With fastening strap and screws for wiring devices. For wiring devices see pages 419 and 420, Condulet catalogue No. 2000. Also furnished with lugs in certain types.

Cat. No.	Form	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GSX15	5	1/2	25	80	\$1.35
GSX25	5	3/4	25	85	1.50
GSX35	5	1	10	35	1.80
GSX110	10	1/2	25	85	1.45
GSX210	10	3/4	25	90	1.70
GSX310	10	1	10	40	2.10
GSX120	20	1/2	25	105	1.95
GSX220	20	3/4	25	110	2.20

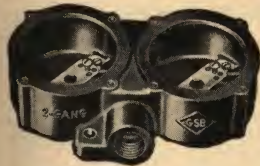




Type GSB Condulet Bodies

Two-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSB1529	5	1 1/2	25	150	\$2.10
GSB2529	5	3/4	25	160	2.40
GSB3529	5	1	10	70	2.80
GSB1129	10	1 1/2	25	160	2.30
GSB2129	10	3/4	25	170	2.60
GSB3129	10	1	10	80	3.00
GSB1229	20	1 1/2	25	200	3.30
GSB2229	20	3/4	25	210	3.60
GSB3229	20	1	10	100	4.00

Type GSD Condulet Bodies

Two-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSD1529	5	1 1/2	25	160	\$2.30
GSD2529	5	3/4	25	170	2.60
GSD3529	5	1	10	75	3.00
GSD1129	10	1 1/2	25	170	2.50
GSD2129	10	3/4	25	180	2.80
GSD3129	10	1	10	85	3.20
GSD1229	20	1 1/2	25	210	3.50
GSD2229	20	3/4	25	220	3.80
GSD3229	20	1	10	110	4.20

Type GSE Condulet Bodies

Two-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSE1529	5	1 1/2	25	150	\$2.10
GSE2529	5	3/4	25	160	2.40
GSE3529	5	1	10	70	2.80
GSE1129	10	1 1/2	25	160	2.30
GSE2129	10	3/4	25	170	2.60
GSE3129	10	1	10	80	3.00
GSE1229	20	1 1/2	25	200	3.30
GSE2229	20	3/4	25	210	3.60
GSE3229	20	1	10	100	4.00

Type GSC Condulet Bodies

Two-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSC1529	5	1 1/2	25	160	\$2.30
GSC2529	5	3/4	25	170	2.60
GSC3529	5	1	10	75	3.00
GSC1129	10	1 1/2	25	170	2.50
GSC2129	10	3/4	25	180	2.80
GSC3129	10	1	10	85	3.20
GSC1229	20	1 1/2	25	210	3.50
GSC2229	20	3/4	25	220	3.80
GSC3229	20	1	10	110	4.20

Type GSB Condulet Bodies

3-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSB1539	5	1 1/2	25	215	\$3.15
GSB2539	5	3/4	25	225	3.60
GSB3539	5	1	10	100	4.20
GSB1139	10	1 1/4	25	230	3.45
GSB2139	10	3/4	25	240	3.90
GSB3139	10	1	10	115	4.50
GSB1239	20	1 1/2	25	290	4.95
GSB2239	20	3/4	25	300	5.40
GSB3239	20	1	10	145	6.00

Type GSD Condulet Bodies

3-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSD1539	5	1 1/2	25	230	\$3.45
GSD2539	5	3/4	25	240	3.90
GSD3539	5	1	10	105	4.50
GSD1139	10	1 1/2	25	245	3.75
GSD2139	10	3/4	25	255	4.20
GSD3139	10	1	10	120	4.80
GSD1239	20	1 1/2	25	305	5.25
GSD2239	20	3/4	25	375	5.70
GSD3239	20	1	10	160	6.30

Type GSE Condulet Bodies

3-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSE1539	5	1 1/2	25	215	\$3.15
GSE2539	5	3/4	25	225	3.60
GSE3539	5	1	10	100	4.20
GSE1139	10	1 1/2	24	230	3.45
GSE2139	10	3/4	25	240	3.90
GSE3139	10	1	10	115	4.50
GSE1239	20	1 1/2	25	290	4.95
GSE2239	20	3/4	25	300	5.40
GSE3239	20	1	10	145	6.00

Type GSC Condulet Bodies

3-gang, with Lugs

Iron, galvanized or enamel. Take covers, vaporproof fixtures, plug receptacle housings, connection or fuse blocks. Also wiring devices, pages 419 and 420, Condulet catalogue No. 2000.



Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GSC1539	5	1 1/2	25	230	\$3.45
GSC2539	5	3/4	25	240	3.90
GSC3539	5	1	10	105	4.50
GSC1139	10	1 1/2	25	245	3.75
GSC2139	10	3/4	25	255	4.20
GSC3139	10	1	10	120	4.80
GSC1239	20	1 1/2	25	305	5.25
GSC2239	20	3/4	25	375	5.70
GSC3239	20	1	10	160	6.30



Vaporproof Iron Switch Covers

For bodies of the GS series. Galvanized or enamel. Furnished with screws and gaskets. 100 assorted GS covers make standard package.



Cat. No.	Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS58	5	25	40	\$1.30
GS108	10	25	55	1.40
GS208	20	25	65	2.00

Vaporproof Iron Hub Covers

For bodies of the GS series. Galvanized or enamel. Furnished with screws and gaskets.



Cat. No.	Form	Size of Hub In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GS53	5	3/8	25	40	\$.60
GS54	5	1/2	25	40	.60
GS13	10	3/8	25	50	.70
GS14	10	1/2	25	50	.70
GS23	20	3/8	25	65	1.00
GS24	20	1/2	25	65	1.00

Vaporproof Iron Blank Covers

Std. pkg., 100 assorted covers of the GS series.



Cat. No.	Form	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GS50	5	25	35	\$.50
GS100	10	25	45	.60
GS200	20	25	60	.90

Midget Guard Fixtures

For form 10 bodies of the GS series. Galvanized or enamel. Furnished with screws. Take 50-watt Mazda B lamps (S 19 bulb) or any lamp not exceeding 2 3/4 x 5 1/4 inches.

Consists of holder, guard No. HGV95, receptacle No. GS126, gaskets and screws. Standard package, 25; weight, standard package, 50 pounds.

Price, No. GS121, each \$2.95



Half Shade Fixtures

For form 10 bodies of the GS series. Galvanized or enamel. Consists of holder, half shade, receptacle No. GS126, gaskets and screws.

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GS122	Complete	25	60	\$2.40
GS112	Holder Only	25	35	.90

Iron Receptacle Covers

For form 10 bodies of the GS series. Galvanized or enamel, furnished with gasket and screws.

Take composition lamp receptacle.



Cat. No.	Take Receptacle	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
GS109	Inside of Cover	25	30	\$.60
GS106	Outside of Cover	25	30	.80

Iron Switch Covers

For form 10 bodies of the GS series. Galvanized or enamel. Furnished with screws.

100 assorted GS covers make a standard package.



Cat. No.	Switches Accommodated	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS113	H & H Tumbler	25	35	\$.40
GS114	Hubbell Toggle	25	35	.40

Composition Lamp Receptacles

Furnished with gasket and screws. If so specified, will be furnished with lamp grip at slight addition to price.



Cat. No.	No. Binding Screws	Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS59	2	5	25	15	\$.50
GS126	2	10	25	20	.75
GS127	8	10	25	25	1.00

Iron Covers with Screw Cap

Galvanized or enamel. For Condulet bodies of the GS series. Take Hubbell attachment plugs and receptacles. With screws.



Cat. No.	Form	Take Plugs	Take Receptacles	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS532	5	5700, 6095, 6638	5624, 5896	25	30	\$.50
GS132	10	5700, 6095, 6638	5624, 5896	25	40	.60
GS533	5	6328	5624	25	30	.50
GS133	10	6328	5624	25	40	.60

Iron Plug Receptacle Covers

For Bryant Marine Plug Receptacles and GS series Condulet bodies.



Cat. No.	Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS123	10	25	25	\$.50



With Spring Door

No. GS123	GS124	10	25	35	\$1.10	No. GS124
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Main Line Composition Fuse Blocks

2-pole, 30-ampere, 250-volt

For Condulet bodies of the GS series.

Cat. No.	Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS34	20	25	20	\$.75



Connection Blocks

For Condulet bodies of the GS series.

Composition

Cat. No.	No. of Wires	Form	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CF209	2	20	25	20	\$.85
CF210	5	10-20	25	20	.65



No. CF210

Porcelain

GS32	2	20	25	15	\$.75
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No. GS32

Type GS Vaporproof Fixtures

Pendent

For form 20 Condulet bodies of the GS series. Iron galvanized or enamel.

Form 75 takes 75-watt Mazda C lamps, 60-watt Mazda B lamps or any lamp not exceeding 2 3/4 x 6 1/8 inches.

Form 200 takes 200-watt Mazda C lamps, 100-watt Mazda B lamps or any lamp not exceeding 3 3/4 x 8 3/8 inches.



Cat. No.	Form	Globe Furnished	Guard Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS675	75	V75	V759	25	180	\$6.10
GS8200	200	V200	V2009	25	230	6.80

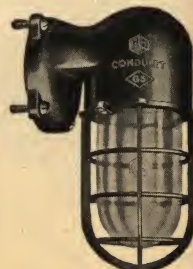
GS Vaporproof Fixtures

Bracket

For form 20 Condulet bodies of the GS series. Iron, galvanized or enamel.

Form 75 takes 75-watt Mazda C lamps, 60-watt Mazda B lamps or any lamp not exceeding 2 3/4 x 6 1/8 inches.

Form 200 takes 200-watt Mazda C lamps, 100-watt Mazda B lamps or any lamp not exceeding 3 3/4 x 8 3/8 inches.



Cat. No.	Form	Globe Furnished	Guard Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GS775†	75	V75	V759	25	180	\$6.10
GS9200†	200	V200	V2009	25	230	6.80

†Sealing plates are required and furnished.



Type BRG Plug Receptacle Housings For Condulet Bodies of the GS Series



2-pole housings are furnished with 30-ampere, 250-volt receptacles BR1302 or BR302, which take 2-pole type BP plugs. 3-pole housings are furnished with 30-ampere, 250-volt receptacles BR1303 or BR303, which take 3-pole type BP plugs. Plugs, see after type BRM.



Type BRG plug receptacle housings with their Condulet bodies make desirable Condulet receptacles for portable devices, especially in marine or similar installations. They make desirable Condulet receptacles for plugs in cold storage plants, boiler rooms, bakeries, flour mills, oil houses, or any place where dust, moisture, or gasproof plug receptacle Condulets are required.

Type BRG Plug Receptacle Housings

Plain

For GS series bodies. Galvanized or enamel. Capacity, 30 amperes, 250 volts A. C. Same rating on D. C. if circuit is broken before plug is withdrawn. Furnished with receptacles and screws.



Any assortment of 25 black enameled and galvanized type BRG plug receptacle housings will be considered a standard package.

2-pole

Cat. No.	Form	Receptacle Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BRG5302	5	BR1302	25	45	\$2.50
BRG1302	10	BR302	25	50	2.60
BRG2302	20	BR302	25	80	3.10

3-pole

Cat. No.	Form	Receptacle Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BRG1303	10	BR1303	25	60	3.25
BRG2303	20	BR303	25	85	3.75

Type BRG Plug Receptacle Housings

Threaded, With Brass Cap

For GS series bodies. Galvanized or enamel. Capacity, 30 amperes, 250 volts A. C. Same rating on D. C. if circuit is broken before plug is withdrawn. Furnished with receptacle, gasket and screws.



Any assortment of 25 black enameled and galvanized type BRG plug receptacle housings will be considered a standard package.

2-pole

Cat. No.	Form	Receptacle Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BRG58302	5	BR1302	25	65	\$3.65
BRG18302	10	BR302	25	70	3.75
BRG28302	20	BR302	25	100	4.25

3-pole

Cat. No.	Form	Receptacle Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BRG18303	10	BR1303	25	85	4.85
BRG28303	20	BR303	25	115	5.35

Type BRG Plug Receptacle Housings

Spring Door

For GS series bodies. Galvanized or enamel. Capacity, 30 amperes, 250 volts A. C. Same rating on D. C. if circuit is broken before plug is withdrawn. Furnished with receptacle and screws.



Any assortment of 25 black enameled and galvanized type BRG plug receptacle housings will be considered a standard package.

2-pole

Cat. No.	Form	Receptacle Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BRG56302	5	BR1302	25	80	\$4.10
BRG16302	10	BR302	25	85	4.20
BRG26302	20	BR302	25	115	4.70

3-pole

Cat. No.	Form	Receptacle Furnished	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BRG16303	10	BR1303	25	95	5.05
BRG26303	20	BR303	25	125	5.55

FS Series Condulet Bodies

Shallow—Black Enamel Finish

Condulets of the FS series, with their variety of covers, permit flush rectangular wiring devices to be mounted either on the surface of, or flush with the wall.

There is ample room around the wiring device for the passage of extra wires. The hubs are cast solid with the body and have an integral bushing and tapered thread.

Over All dimensions, not including hubs, $4\frac{9}{32} \times 2\frac{3}{4} \times 1\frac{7}{8}$ inches.

Special Assortment—Single

Any assortment of 200 black enameled and galvanized bodies of the FS series, except two-gang, two-gang tandem, and two, three, and four-gang, will be considered a standard package.

Type FS Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.



Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FS1	$\frac{1}{2}$	50	100	\$.65
FS2	$\frac{3}{4}$	50	105	.75
FS3	1	25	60	.85

Type FSA Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSA1	$\frac{1}{2}$	50	100	\$.65
FSA2	$\frac{3}{4}$	50	105	.75
FSA3	1	25	60	.85



Type FSC Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSC1	$\frac{1}{2}$	50	110	\$.75
FSC2	$\frac{3}{4}$	50	115	.90
FSC3	1	25	65	1.10

Type FSL Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSL1	$\frac{1}{2}$	50	110	\$.75
FSL2	$\frac{3}{4}$	50	115	.90
FSL3	1	25	65	1.10



Type FSR Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSR1	$\frac{1}{2}$	50	110	\$.75
FSR2	$\frac{3}{4}$	50	115	.90
FSR3	1	25	65	1.10

Type FSS Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSS1	$\frac{1}{2}$	50	110	\$.75
FSS2	$\frac{3}{4}$	50	115	.90
FSS3	1	25	65	1.10





Type FSCC Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. Over all dimensions, not including hubs, $4\frac{3}{8} \times 2\frac{3}{4} \times 1\frac{7}{8}$ inches.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Pkg.	Price Each
FSCC1	$\frac{1}{2}$	50	115		\$1.00
FSCC21	$\frac{3}{4}$	50	120		1.25
FSCC31	$1\frac{1}{2}$	25	70		1.45

Type FSCT Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Pkg.	Price Each
FSCT1	$\frac{1}{2}$	50	115		\$1.00
FSCT2	$\frac{3}{4}$	50	120		1.25
FSCT3	1	25	70		1.45



Type FST Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Pkg.	Price Each
FST1	$\frac{1}{2}$	50	115		\$1.00
FST2	$\frac{3}{4}$	50	120		1.25
FST3	1	25	70		1.45

Type FSX Condulet Bodies

Shallow type, galvanized or enamel. Furnished with screws for wiring devices. For wiring devices see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Pkg.	Price Each
FSX1	$\frac{1}{2}$	50	120		\$1.20
FSX2	$\frac{3}{4}$	50	125		1.50
FSX3	1	25	80		1.70



Type FS Two-gang Tandem Bodies

Take the same wiring devices, plug receptacle housings and covers as FS series. Any assortment of 75 black enameled and galvanized Condulet bodies of FS series, two-gang tandem, make standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Pkg.	Price Each
FS17	$\frac{1}{2}$	50	220		\$1.65
FS27	$\frac{3}{4}$	25	120		1.75
FS37	1	10	60		1.85

Type FSC Two-gang Tandem Bodies

Take same wiring devices, plug receptacle housings and covers as the FS series. Any assortment of 75 black enameled and galvanized bodies of FS series, two-gang tandem, make standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Pkg.	Price Each
FSC17	$\frac{1}{2}$	50	230		\$1.75
FSC27	$\frac{3}{4}$	25	130		1.85
FSC37	1	10	70		1.95



Covers

For Condulet Bodies of the FS Series, Two-gang Tandem, and Type FH

Made of sheet steel, galvanized or enamel. Will fit rectangular base wiring devices as designated.

Any assortment of 200 black enameled, galvanized and vaporproof covers will be considered a standard package.

Numerous styles of covers are made in two, three and four-gang.

Metal Condulet Covers

For Single Push Button Switches



Sheet steel, galvanized or enamel. Furnished with screws.
Standard package, 50.
Weight, standard package, 25 pounds.

Price, No. DS7.....each \$1.15

Metal Condulet Covers For Double Push Button, Double Push Button Momentary Contact and Double Push Lock Switches; Also Flush Receptacles



Sheet steel, galvanized or enamel. Furnished with screws.
Standard package, 50.
Weight, standard package, 25 pounds.

Price, No. DS8.....each \$1.15

Metal Condulet Covers

For Rotary Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS9.....each \$1.15



Metal Condulet Covers For Round Flush Receptacles



Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS10.....each \$6.60

Metal Condulet Covers For Hubbell 20-ampere Polarity Flush Receptacles

Sheet steel, galvanized or enamel. Furnished with screws.

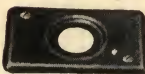
Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS12.....each \$2.20



Metal Condulet Covers For Round Flush Receptacles



Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50 pounds.

Weight, standard package, 25 pounds.

Price, No. DS21.....each \$2.25

Metal Condulet Covers For Hubbell 6-ampere Polarity Flush Receptacle

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS22.....each \$2.25



Metal Condulet Covers

For Standard Duplex Flush Receptacles

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS23.....each \$3.30



Metal Condulet Covers

For G-E Tumbler Flush Switches

Furnished with escutcheon plate and spring.

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS32.....each \$1.15





Metal Condulet Covers

For Bryant Toggle Flush Switches



Sheet steel, galvanized or enamel. Furnished with screws.
Standard package, 50.
Weight, standard package, 2½ pounds.

Price, No. DS33.....each \$.15

Metal Condulet Covers

For H. & H. Tumbler Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. DS27.....each \$.15



Metal Condulet Covers

Blank

Galvanized or enamel, furnished with screws.

Sheet Steel

Std. Pkg., 50. Wt., Std. Pkg., 25 lbs.

Price, No. DS100.....each \$.10

Cast Iron

Furnished with gasket.

Std. Pkg., 50. Wt., Std. Pkg., 40 lbs.

Price, No. DS100g.....each \$.25



Metal Condulet Covers

For Double Push Button, Double Push Button Momentary Contact, and Double Push Lock Switches

With guard, cast iron, galvanized or enamel. Furnished with screws.

Standard package, 50; weight, standard package, 40 pounds.

Price, No. DS8g.....each \$.35



Metal Condulet Covers

For Round Flush Receptacles

With spring door. Cast iron, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 4½ pounds.

Price, No. DS10g.....each \$1.25



Metal Condulet Covers—Vaporproof

With Switch Operating Mechanism

For double push button switches.

Cast iron, galvanized or enamel. Furnished with gasket and screws.

Standard package, 25.

Weight, standard package, 40 pounds.

Price, No. DS108.....each \$1.75



Metal Condulet Covers—Vaporproof

With Switch Operating Mechanism

For momentary contact switches.

Cast iron, galvanized or enamel. Furnished with gasket and screws.

Standard package, 25.

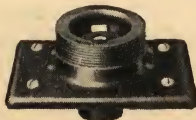
Weight, standard package, 40 pounds.

Price, No. DS107.....each \$1.75

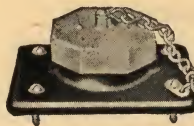


Type BRD Housings

Threaded, furnished with receptacle, gasket and screws. Capacity: 30 amperes, 250 volts, A. C. Same capacity D. C. if circuit is broken before plug is withdrawn.



CAT. No.		WT. LBS.		PRICE, EACH	
2-pole	3-pole	Assorted	2-pole	3-pole	
BRD7302	BRD7303	25	70	80	\$2.80 \$3.35



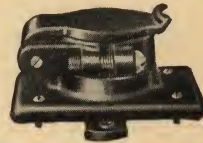
Type BRD Housings

Threaded, with brass cap. Furnished with receptacle, gaskets and screws. Capacity: 30 amperes, 250 volts A. C. Same capacity D. C. if circuit is broken before plug is withdrawn.

CATALOGUE NUMBER		STD. PKG.	WT. LBS.		PRICE, EACH	
2-pole	3-pole	Assorted	2-pole	3-pole	2-pole	3-pole
BRD8302	BRD8303	25	90	105	\$3.75	\$4.70

Type BRD Housings

Spring door, furnished with receptacles and screws. Capacity: 30 amperes, 250 volts A. C. Same capacity D. C. if circuit is broken before plug is withdrawn.



CATALOGUE NUMBER		STD. PKG.	WT. LBS.		PRICE, EACH	
2-pole	3-pole	Assorted	2-pole	3-pole	2-pole	3-pole
BRD6302	BRD6303	25	100	110	\$4.20	\$4.90

Type FS Two-gang Condulet Bodies

Shallow Type—Black Enamel Finish

Take covers and flush rectangular wiring devices. Overall dimensions of body, not including hubs, length, 4 $\frac{3}{8}$ inches; width, 4 $\frac{5}{8}$ inches; depth, 1 $\frac{1}{8}$ inches. Furnished with screws for wiring devices. Any assortment of 100 black enameled and galvanized FS series two-gang bodies makes a standard package.



Type FS Two-gang Bodies

Take covers. Also flush rectangular wiring devices, see pages 412 to 414 Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FS12	1 $\frac{1}{2}$	50	140	\$1.20
FS22	3 $\frac{1}{4}$	25	75	1.30
FS32	1	10	35	1.40

Type FSA Two-gang Bodies

Take covers. Also flush rectangular wiring devices. See pages 412 to 414 Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSA12	1 $\frac{1}{2}$	50	145	\$1.20
FSA22	3 $\frac{1}{4}$	25	80	1.30
FSA32	1	10	40	1.40



Type FSC Two-gang Bodies

Take covers. Also flush rectangular wiring devices, see pages 412 to 414 Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSC12	1 $\frac{1}{2}$	50	150	\$1.30
FSC22	3 $\frac{1}{4}$	25	85	1.40
FSC32	1	10	45	1.55



Type FSD Two-gang Bodies

Take covers. Also flush rectangular wiring devices. See pages 412 to 414 Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSD12	1 $\frac{1}{2}$	50	160	\$1.45
FSD212	3 $\frac{1}{4}$ —1 $\frac{1}{2}$	25	90	1.55
FSD312	1—1 $\frac{1}{2}$	10	50	1.65



Type FSS Two-gang Bodies

Take covers. Also flush rectangular wiring devices. See pages 412 to 414 Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSS222	3 $\frac{1}{4}$	25	85	\$1.40





FS Series Two-gang Metal Covers

For Double Push Button, Double Push Button Momentary Contact, and Double Push Lock Switches



Cast iron with guard. Galvanized or enamel. Furnished with screws. Standard package, 50. Weight, standard package, 50 pounds.

Price, No. S82g.....each \$.65

FS Series Two-gang Metal Covers

For Double Push Button, Double Push Button Momentary Contact, and Double Push Lock Switches; and Flush Receptacles



Sheet steel, galvanized or enamel. Furnished with screws. Standard package, 50. Weight, standard package, 30 pounds.

Price, No. S82.....each \$.30

FS Series Two-gang Metal Covers

For Rotary Flush Switches



Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50. Weight, standard package, 30 pounds.

Price, No. S92.....each \$.30

FS Series Two-gang Metal Covers

For General Electric Tumbler Flush Switches



Sheet steel, galvanized or enamel. Furnished with escutcheon plate, spring and screws.

Standard package, 50. Weight, standard package, 30 pounds.

Price, No. S322.....each \$.30

FS Series Two-gang Metal Covers

For Bryant Toggle Flush Switches



Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 30 pounds.

Price, No. S332.....each \$.30

FS Series Two-gang Metal Covers

For Hart & Hegeman Tumbler Flush Switches



Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50. Weight, standard package, 30 pounds.

Price, No. S272.....each \$.30

FS Series Two-gang Metal Covers

Blank



Galvanized or enamel. Furnished with screws.

Sheet Steel

Standard package, 50. Weight, standard package, 30 pounds.

Price, No. S1002.....each \$.20

Cast Iron with Gasket

Standard package, 50. Weight, standard package, 55 pounds.

Price, No. S1002g.....each \$.50

FS Series Two-gang Metal Covers

Vaporproof—For Double Push Button Switches



Cast iron with switch operating mechanism. Furnished with gasket and screws. Switches, page 414, Condulet catalogue No. 2000.

Standard package, 25. Weight, standard package, 75 lbs.

Price, No. DS1082.....each \$.30.00

Type FS Three-gang Condulet Bodies

Take covers. Also flush rectangular wiring devices, see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FS23	3/4	25	100	\$1.80
FS33	1	10	40	1.95



Type FSC Three-gang Condulet Bodies

Take covers. Also flush rectangular wiring devices, see pages 412 to 414, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FSC23	3/4	25	105	\$1.90
FSC33	1	10	45	2.05



FS Series Three-gang Metal Covers

For Double Push Button Switches

Galvanized or enamel. Furnished with screws.



Sheet Steel

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S83.....each \$.45

Cast Iron with Guard

Standard package, 25. Weight, standard package, 50 pounds.

Price, No. S83g.....each \$1.00

FS Series Three-gang Metal Covers

For Single Push Button Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S73.....each \$.45



FS Series Three-gang Metal Covers

For Rotary Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S93.....each \$.45



FS Series Three-gang Metal Covers

For General Electric Tumbler Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. S323.....each \$.45



FS Series Three-gang Metal Covers

For Bryant Toggle Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50.

Weight, standard package, 25 pounds.

Price, No. S333.....each \$.45



FS Series Three-gang Metal Cover Blanks

Galvanized or enamel. Furnished with screws.

Sheet Steel

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S1003.....each \$.40



Cast Iron with Gasket

Standard package, 25. Weight, standard package, 50 pounds.

Price, No. S1003g.....each \$.75



Type FS Four-gang Condulet Bodies

Take covers. Also flush rectangular wiring devices, see pages 412 to 414, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
FS24	3/4	25	115		\$2.20
FS34	1	10	60		2.40

Type FSC Four-gang Condulet Bodies

Take covers. Also flush rectangular wiring devices, see pages 412 to 414, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
FSC24	3/4	25	125		\$2.35
FSC34	1	10	65		2.50

FS Series Four-gang Metal Covers

For Double Push Button Switches

Galvanized or enamel. Furnished with screws.

Sheet Steel

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S84.....each \$.60

Cast Iron with Guard

Standard package, 25. Weight, standard package, 55 pounds.

Price, No. S84g.....each \$1.40

FS Series Four-gang Metal Covers

For Single Push Button Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S74.....each \$.60

FS Series Four-gang Metal Covers

For Rotary Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 25. Weight, standard package, 25 pounds.

Price, No. S94.....each \$.60

FS Series Four-gang Metal Covers

For General Electric Tumbler Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50. Weight, standard package, 25 pounds.

Price, No. S324.....each \$.60

FS Series Four-gang Metal Covers

For Bryant Toggle Flush Switches

Sheet steel, galvanized or enamel. Furnished with screws.

Standard package, 50. Weight, standard package, 25 pounds.

Price, No. S334.....each \$.60

FS Series Four-gang Metal Covers

Blank

Galvanized or enamel. Furnished with screws.

Sheet Steel

Standard package, 25. Weight, standard package, 30 pounds.

Price, No. S1004.....each \$.60

Cast Iron with Gasket

Standard package, 25. Weight, standard package, 55 pounds.

Price, No. S1004g.....each \$1.00

J-K Series Condulet Bodies

Condulets of the J-K series prevent rain, ice, sleet, and snow from coming in contact with current carrying parts.

The cap of the receptacle or rosette is secured to its base by two screws, which also complete the electrical connections. The fastening screws furnished are so retained that they cannot fall out.

Any assortment of 250 black enameled and galvanized bodies of the J-K series will be considered a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
J1	1/2	100	130		\$.60
J2	3/4	50	75		.75
J3	1	25	40		1.05

Type J Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Type JA Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
JA1	1/2	100	130		\$.70
JA2	3/4	50	75		.85
JA3	1	25	40		1.15



Type JB Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
JB1	1/2	100	140		\$.70
JB2	3/4	50	80		.85
JB3	1	25	50		1.15



Type JT Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
JT1	1/2	100	170		\$.95
JT2	3/4	50	90		1.05
JT3	1	25	55		1.15



Type K Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
K1	1/2	100	100		\$.50
K2	3/4	50	60		.65
K3	1	25	40		.95



Type KC Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
KC1	1/2	100	135		\$.60
KC2	3/4	50	75		.75
KC3	1	25	45		1.05



Type KD Condulet Bodies

Galvanized or enamel. Take Norbitt Conduletts or blank cover.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Lbs. Std. Pkg.	Price Each
KD1	1/2	100	135		\$.60
KD2	3/4	50	75		.75
KD3	1	25	45		1.05





Norbitt Condulettos

For Condulet Bodies of the J-K Series

These fittings are weatherproof, and can be installed either in or out of doors. Made in two parts — base and cap. The base is secured to the Condulet body by a single center screw. The cap is secured to the base by two screws which also complete the electrical connection.

Furnished with gasket and fastening screw.

Conduletto Lamp Receptacles

With Shade Holder Groove



If specified, will be furnished with lamp grip, at slight addition to list price. Furnished with gasket and fastening screw.

Standard package, 200.

Weight, standard package, 130 pounds.

Price, No. CC227g.....each \$.45

Conduletto Lamp Receptacles

Without Shade Holder Groove

If specified will be furnished with lamp grip, at slight addition to list price. Furnished with gasket and fastening screw.

Standard package, 200.

Weight, standard package, 130 pounds.

Price, No. CC227.....each \$.40



Conduletto Plug Receptacles

Hubbell Attachment 6 Amperes



Furnished with gasket and fastening screw.

Standard package, 100.

Weight, standard package, 60 pounds.

Price, No. CC5.....each \$.50

Conduletto Plug Receptacles

Hubbell Polarity

20 Amperes

Furnished with gasket and fastening screw.

Standard package, 100.

Weight, standard package, 60 pounds.

Price, No. CC20.....each \$.65



Conduletto Cord Rosettes

For use where it is desired to install a drop cord light or other similar extension or connection.

Furnished with gasket and fastening screw.

Standard package, 200.

Weight, standard package, 140 pounds

Price, No. CC332.....each \$.35



Conduletto Fixture Rosettes

With 1/8-inch Male Nipple

For use where it is desired to attach socket or other fitting having 1/8-inch threaded opening, direct to the Conduletto.

Standard package, 100.

Weight, standard package, 60 pounds.

Price, No. CC339.....each \$.40



Conduletto Fixture Rosettes

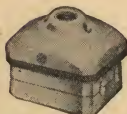
With 1/8-inch Female Nipple

For use where it is desired to attach socket or other fitting having 1/8-inch threaded opening, direct to the Conduletto.

Standard package, 100.

Weight, standard package, 60 pounds.

Price, No. CC338.....each \$.40



RJ—RK Series Condulet Bodies

For installations requiring wiring devices that are water-shedding but not watertight, or where space is limited, these bodies will meet most conditions. Ample space is provided for the unobstructed passage of extra wires.

Any assortment of 250 black enameled and galvanized Condulet bodies of the RJ-RK series will be considered a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RJ1	1 1/2	100	100	\$.50
RJ2	3/4	50	60	.60
RJ3	1	25	40	.90

Type RJ Condulet Bodies

Elliptical opening, galvanized or enamel. Take elliptical covers and Condulettos or 2-pole plug receptacle housings.

Type RK Condulet Bodies

Elliptical opening, galvanized or enamel. Take elliptical covers and Condulettos or 2-pole plug receptacle housings.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RK1	1 1/2	100	8	\$.40
RK2	3/4	50	50	.55
RK3	1	25	35	.80



Type RJB Condulet Bodies

Elliptical opening, galvanized or enamel. Take elliptical covers and Condulettos or 2-pole plug receptacle housings.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RJB1	1 1/2	100	100	\$.70
RJB2	3/4	50	60	.80
RJB3	1	25	40	.90

Type RJL Condulet Bodies

Elliptical opening, galvanized or enamel. Take elliptical covers and Condulettos or 2-pole plug receptacle housings.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RJL1	1 1/2	100	100	\$.70
RJL2	3/4	50	60	.80
RJL3	1	25	40	.90



Type RJR Condulet Bodies

Elliptical opening galvanized or enamel. Take elliptical covers and Condulettos or 2-pole plug receptacle housings.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RJR1	1 1/2	100	100	\$.70
RJR2	3/4	50	60	.80
RJR3	1	25	40	.90



Type RJT Condulet Bodies

Elliptical opening, galvanized or enamel. Take elliptical covers and Condulettos or 2-pole plug receptacle housings.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RJT1	1 1/2	100	130	\$.80
RJT2	3/4	50	80	.90
RJT3	1	25	50	1.00



Conduletto Lamp Receptacles

With Shade Holder Groove

Elliptical, for the RJ-RK series bodies. If specified, will be furnished with lamp grip, at slight addition to list price.

Furnished with gasket and screws.



Standard package, 200.

Weight, standard package, 100 pounds.

Price, No. RK527g.....each \$.45

**Conduletto Lamp Receptacles****Without Shade Holder Groove**

Elliptical, for bodies of the RJ-RK series. If specified, will be furnished with lamp grip at slight addition to list price. Furnished with gasket and screws.

Standard package, 200. Weight, standard package, 100 lbs.
Price, No. RK527.....each \$.40

Conduletto Plug Receptacles**Hubbell Attachment****6 Amperes**

Elliptical, for bodies of the RJ-RK series. Will accommodate regular 6-ampere Hubbell cap.

Furnished with gasket and screws.
Standard package, 100. Weight, standard package, 60 pounds.
Price, No. RK5.....each \$.50

Conduletto Plug Receptacles**Hubbell Polarity****20 Amperes**

Elliptical, for bodies of the RJ-RK series. Will accommodate 20-ampere Hubbell polarity cap.

Furnished with gasket and screws.
Standard package, 100. Weight, std. pkg., 60 lbs.
Price, No. RK20.....each \$.65

Conduletto Cord Rosettes

Elliptical, for bodies of the RJ-RK series. For use where it is desired to install a drop cord light or other similar extension.

Furnished with gasket and screws.
Standard package, 200. Weight, standard package, 110 pounds.
Price, No. RK532.....each \$.35

Type PG Condulet Bodies

Galvanized or enamel. Take Bryant-Perkins 2597 or G. E. 151394, 3-pole snap switch with cast iron protective cover.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PG1	1/2	25	60	\$1.10
PG2	3/4	25	70	1.25
PG3	1	10	30	1.40

Type PGC Condulet Bodies

Galvanized or enamel. With screws. Any assort. of 100 black enameled and galvanized bodies of PG series make a std. pkg.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PGC1	1/2	25	80	\$1.25
PGC2	3/4	25	90	1.40
PGC3	1	10	50	1.55

Type PGT Condulet Bodies

Galvanized or enamel. Take Bryant-Perkins 2597 or G. E. 151394, 3-pole snap switch with cast iron protective cover.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PGT1	1/2	25	85	\$1.45
PGT2	3/4	25	95	1.60
PGT3	1	10	55	1.75

Type PGG Condulet Bodies

Galvanized or enamel. With screws. Any assortment of 100 black enameled and galvanized bodies of PG series make a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PGG1	1/2	25	80	\$1.25
PGG2	3/4	25	90	1.40
PGG3	1	10	50	1.55

S Series Condulet Bodies**Black Enamel Finish**

Take covers, Norbitt Clamp Condulettos, or other wiring devices.

Furnished with fastening strap and screws.

Any assortment of 200 black enameled and galvanized Condulet bodies of the S series will be considered a standard package.

Type S Condulet Bodies

Galvanized or enamel. Take covers, Norbitt clamp Condulettos or other wiring devices, see pages 428 to 430, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
S1	1/2	100	140	\$.70
S2	3/4	50	75	.75
S3	1	25	40	.90

Type SA Condulet Bodies

Galvanized or enamel. Take covers, Norbitt clamp Condulettos or other wiring devices, see pages 428 to 430, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SA1	1/2	100	140	\$.70
SA2	3/4	50	75	.75
SA3	1	25	40	.90

Type SC Condulet Bodies

Galvanized or enamel. Take covers, Norbitt clamp Condulettos or other wiring devices.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SC1	1/2	100	155	\$.80
SC2	3/4	50	80	.85
SC3	1	25	45	1.05

Type SL Condulet Bodies

Galvanized or enamel. Take covers, Norbitt clamp Condulettos or other wiring devices, see pages 428 to 430, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SL1	1/2	100	155	\$.80
SL2	3/4	50	80	.85
SL3	1	25	45	1.05

Type ST Condulet Bodies

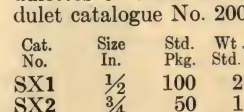
Galvanized or enamel. Take covers, Norbitt clamp Condulettos or other wiring devices, see pages 428 to 430, catalogue 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
ST1	1/2	100	175	\$.90
ST2	3/4	50	90	1.00
ST3	1	25	50	1.20

Type SX Condulet Bodies

Galvanized or enamel. Take covers, Norbitt clamp Condulettos or other wiring devices, see pages 428 to 430, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SX1	1/2	100	200	\$1.00
SX2	3/4	50	110	1.10
SX3	1	25	80	1.35

**Covers For Wiring Devices**

For bodies of the S series. Galvanized or enamel. Furnished with screws.



Cat. No.	Kind of Metal	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
00	Sheet Steel	100	50	\$.12
00g	Cast Iron	100	70	.35
00k	Sheet Steel	100	50	.12
00kg	Cast Iron	100	70	.35



Blank Covers



For bodies of the S series. Galvanized or enamel. Furnished with screws.

Cat. No.	Kind of Metal	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
00b	Sheet Metal	100	50	\$.12
00bg	Cast Iron	100	70	.35

Lamp Receptacle Condulettos

For bodies of the S series and type FH, and SRH holders. If specified, will be furnished with lamp grip, at slight addition to list price.

Standard package, 200; weight, standard package, 90 pounds.

Price, No. C337g, with Shade Holder Groove.....each \$.45

" " C337, without Shade Holder Groove... " .40



Cord Rosette Condulettos



For S series type and FH bodies, HV guard fixtures, and SRH holders.

For use where it is desired to install a drop cord light or other similar extension.

Standard package 200; weight, standard package, 90 pounds.

Price, No. C442.....each \$.35

FA Series Condulets

Condulets of the FA series with 2-pole, 30-ampere, 250-volt, tumbler switch are for use on branch circuits, where such switches would be subjected to unusually severe service conditions. The switch handle operates through a slot in the cast cover, and is surrounded and protected by a guard rim. The handle is self indicating and can also be furnished with luminous finder at 50 cents extra.

Type FA

With 2-pole Tumbler Switch and Guarded Cover

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FA129	1/2	25	150	\$6.25
FA229	3/4	25	155	6.35
FA329	1	10	65	6.45



Type FA

With 2-pole Tumbler Switch and Water-tight Cover



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FA128	1/2	25	170	\$8.90
FA228	3/4	25	175	9.00
FA328	1	10	75	9.10

Type FAC

With 2-pole Tumbler Switch and Guarded Cover

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FAC129	1/2	25	155	\$6.35
FAC229	3/4	25	160	6.45
FAC329	1	10	70	6.55



Type FAC

With 2-pole Tumbler Switch and Watertight Cover



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FAC128	1/2	25	175	\$9.00
FAC228	3/4	25	180	9.10
FAC328	1	10	80	9.20

Type SJ Condulet Bodies

Galvanized or enamel. Take covers and tumbler or toggle switches. For switches see page 431, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SJ1	1/2	50	80	\$.65
SJ2	3/4	25	40	.75
SJ3	1	25	45	1.00

Type SJA Condulet Bodies

Galvanized or enamel. Take covers and tumbler or toggle switches. 200 assorted black enameled and galvanized SJ series bodies make standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SJA1	1/2	50	80	\$.65
SJA2	3/4	25	40	.75
SJA3	1	25	45	1.00



Type SJC Condulet Bodies

Galvanized or enamel. Take covers and tumbler or toggle switches. For switches see page 431, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SJC1	1/2	50	85	\$.75
SJC2	3/4	25	45	.85
SJC3	1	25	50	1.10

Type SJL Condulet Bodies

Galvanized or enamel. Take covers and tumbler or toggle switches. 200 assorted black enameled and galvanized SJ series bodies make standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SJL1	1/2	50	85	\$.75
SJL2	3/4	25	45	.85
SJL3	1	25	50	1.10



Type SJT Condulet Bodies

Galvanized or enamel. Take covers and tumbler or toggle switches. For switches see page 431, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SJT1	1/2	50	85	\$.85
SJT2	3/4	25	50	.95
SJT3	1	25	55	1.20

Type SJX Condulet Bodies

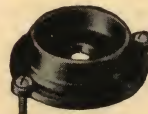
Galvanized or enamel. Take covers and tumbler or toggle switches. 200 assorted black enameled and galvanized SJ series bodies make standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SJX1	1/2	50	90	\$.95
SJX2	3/4	25	55	1.05
SJX3	1	25	60	1.30



Cast Iron Covers

For bodies of the SJ series. Galvanized or enamel. Standard package, 50. Weight, 20 pounds.



Price, No. SJ28 with Guard for Tumbler Switches... \$.30
" " SJ32 " " Toggle "30

Cast Iron Covers

For bodies of the SJ series. Galvanized or enamel. Standard package, 50. Weight, 15 pounds.



Price, No. SJ27 without Guard for Tumbler Switches \$.25
" " SJ31 " " Toggle " .25

**Type SE Condulet Bodies**

Galvanized or enamel. Take 3/4-inch outlet box round base wiring devices. For wiring devices see pages 430 and 431, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
SE1	1/2	50	100	\$.80
SE2	3/4	25	50	.90
SE3	1	25	55	1.10

Type SEC Condulet Bodies

Galvanized or enamel. Take 3/4-inch outlet box round base wiring devices. With screws. 200 assorted bodies of SE series make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SEC1	1/2	50	105	\$.95
SEC2	3/4	25	55	1.05
SEC3	1	25	60	1.25

**Type SEL Condulet Bodies**

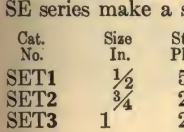
Galvanized or enamel. Take 3/4-inch outlet box round base wiring devices. For wiring devices see pages 430 and 431 Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SEL1	1/2	50	105	\$.95
SEL2	3/4	25	55	1.05
SEL3	1	25	60	1.25

Type SET Condulet Bodies

Galvanized or enamel. Take 3/4-inch outlet box round base wiring devices. With screws. 200 assorted bodies of SE series make a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SET1	1/2	50	110	\$ 1.05
SET2	3/4	25	60	1.15
SET3	1	25	65	1.35

**Type SEX Condulet Bodies**

Galvanized or enamel. Take 3/4-inch outlet box round base wiring devices. For wiring devices see pages 430 and 431 Condulet catalogue No. 2000.

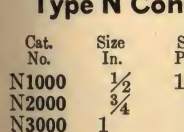


Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SEX1	1/2	50	115	\$ 1.15
SEX2	3/4	25	65	1.25
SEX3	1	25	70	1.45

N Series Condulet Bodies

Condulets for concealed conduit. Galvanized or enamel. Take Crouse-Hinds or other flush pocket lamp receptacles or attachment plug receptacles. Furnished with telescopic cover, temporary cap, and screws.

Any assortment of 200 black enameled and galvanized Condulets of the N series will be considered a standard package.

Type N Condulet Bodies

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
N1000	1/2	100	120	\$.90
N2000	3/4	50	65	.95
N3000	1	25	40	1.05

**Type NC Condulet Bodies**

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
NC1000	1/2	100	130	\$.95
NC2000	3/4	50	70	1.05
NC3000	1	25	45	1.15

Lamp Receptacles

For Condulet bodies of the N series, and type VS. Furnished with screws. Receptacles, page 422, Condulet catalogue No. 2000.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
C9514	100	40	\$.30

**W Series Condulets**

These Condulets completely house attachment plug receptacles in such a manner that it is practically impossible to injure them.

Hubs are cast solid with the body and have an integral bushing and tapered thread. Blank sheet steel or cast iron covers are provided for Condulet bodies of this series, permitting them to be used as pull or junction boxes.

Type W Condulet Bodies

Galvanized or enamel. Take covers and attachment plug receptacles. Wiring devices, page 432, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
W1	1/2	100	90	\$.50
W2	3/4	50	70	.60
W3	1	25	40	.70

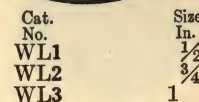
Type WC Condulet Bodies

Galvanized or enamel. Take covers and attachment plug receptacles. 200 assorted bodies of W series make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WC1	1/2	100	115	\$.60
WC2	3/4	50	75	.65
WC3	1	25	55	.80

**Type WL Condulet Bodies**

Galvanized or enamel. Take covers and attachment plug receptacles. Wiring devices, page 432, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WL1	1/2	100	115	\$.60
WL2	3/4	50	75	.65
WL3	1	25	55	.80

Type WT Condulet Bodies

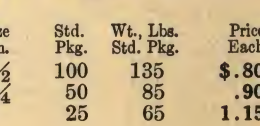
Galvanized or enamel. Take covers and attachment plug receptacles. 200 assorted bodies of W series make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WT1	1/2	100	125	\$.70
WT2	3/4	50	80	.80
WT3	1	25	60	1.00

**Type WX Condulet Bodies**

Take covers and attachment plug receptacles. Wiring devices, page 432, Condulet catalogue No. 2000.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WX1	1/2	100	135	\$.80
WX2	3/4	50	85	.90
WX3	1	25	65	1.15

**Metal Covers****For Attachment Plug Receptacles**

For bodies of W series. Galvanized or enamel. Furnished with screws. 200 assorted covers for this series make a standard package.



	Sheet Steel	Cast Iron
Catalogue No.	0	0g
Standard Package	100	100
Weight, Standard Package lbs.	30	40
Price each	\$.10	.20

Metal Covers**Blank**

For bodies of W series. Galvanized or enamel. Furnished with screws. 200 assorted covers for this series make a standard package.

	Sheet Steel	Cast Iron
Catalogue No.	0b	0bg
Standard Package	100	100
Weight, Standard Package lbs.	30	45
Price each	\$.10	.20



Type WD Condulet Bodies

Galvanized or enamel. Take covers and receptacles or connection blocks. Wiring devices, pages 432 and 433, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WD1	1/2	100	120	\$.60
WD2	3/4	50	65	.70
WD3	1	25	35	.80

Type WDC Condulet Bodies

Galvanized or enamel. Take covers and receptacles or connection blocks.

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WDC1	1/2	100	130	\$.70
WDC2	3/4	50	70	.75
WDC3	1	25	35	.90



Type WDL Condulet Bodies



Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WDL1	1/2	100	130	\$.70
WDL21	*3/4-1/2	50	70	.75
WDL2	3/4	50	70	.75
WDL31	*1-1/2	25	35	.90
WDL32	*1-3/4	25	35	.90
WDL3	1	25	35	.90

*Larger hub is at top in illustration.

Types WDT Condulet Bodies

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WDT1	1/2	100	140	\$.80
WDT21	*3/4-1/2-3/4	50	75	.90
WDT2	3/4	50	75	.90
WDT31	*1-1/2-1	25	40	1.10
WDT32	*1-3/4-1	25	40	1.10
WDT3	1	25	40	1.10

*Smaller hub is at top in illustration.



Type WDX Condulet Bodies

Any assortment of 200 WD series bodies or 200 covers will be considered a standard package. Take covers and receptacles or connection blocks.



Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WDX1	1/2	100	150	\$.90
WDX2	3/4	50	80	1.00
WDX3	1	25	45	1.25

Metal Covers For WD Series For Sign Receptacles, Cast Iron

Standard Package, 100. Weight, 50 pounds.
Price, No. WD001.....each \$.40

For Clamp Receptacles

Cat. No.	Opening	Kind of Metal	Std. Pkg.	Wt. Pkg.	Price Each
WD054	1 1/4	Sheet Steel	100	25	\$.15
WD0054	1 1/4	Cast Iron	100	40	.30
WD048	1 1/2	Sheet Steel	100	25	.15
WD0048	1 1/2	Cast Iron	100	40	.30



Metal Covers

Blank

Galvanized or enamel. Furnished with screws so retained that they cannot fall out.



Cat. No.	Kind of Metal	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
WD00	Sheet Steel	100	25	\$.15
WD000	Cast Iron	100	45	.30

Connection Blocks

For Condulet bodies of the WD series and form 5 bodies of the GS series. Furnished with screws.

Standard Package.....	100
Weight, Standard Package.....pounds	30
Price, No. PE72, Porcelain.....each	\$.25



Standard Package.....	50
Weight, Standard Package.....pounds	15
Price, No. CF101, Composition.....each	\$.50



QE Series Condulets

Form 108

Weatherproof, black enamel finish. Take round base lock snap switches. Furnished with adjustable bar and screws.

These Condulets are for installations exposed to the weather or where it is desired to protect the switch from mechanical injury.

They are made in two parts: body and housing. The body is furnished with an adjustable bar for mounting the switch. The hubs are cast solid with the body and have an integral bushing and tapered thread. The housing is fastened to the body by four screws and is provided with a hole for inserting the key that operates the switch.

The QE series, form 108, does not give the same degree of protection from meddling that is obtained when a padlock is used with the QE series, form 1096.

Any assortment of 100 black enameled and galvanized Condulets of the QE series, form 108, will be considered a standard package.

Type QEE Condulets

Take round base lock snap switches. Furnished with adjustable bar and screws.

Wiring devices, page 426, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEE1108	1/2	25	80	\$1.85
QEE2108	3/4	25	90	1.95
QEE3108	1	10	45	2.05

Type QEF Condulets

Take round base lock snap switches. Furnished with adjustable bar and screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEF1108	1/2	25	90	\$2.00
QEF2108	3/4	25	100	2.10
QEF3108	1	10	50	2.20



Type QED Condulets

Take round base lock snap switches. Furnished with adjustable bar and screws. Wiring devices, page 426, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QED1108	1/2	25	100	\$2.30
QED2108	3/4	25	110	2.40
QED3108	1	10	55	2.50

Type QEG Condulets

Weatherproof, galvanized or enamel. Take round base lock snap switches. Furnished with adjustable bar and screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEG1108	1/2	25	115	\$2.05
QEG2108	3/4	25	125	2.15
QEG3108	1	10	65	2.25



Type QEK Condulets

Take round base lock snap switches. Furnished with adjustable bar and screws.

Wiring devices, page 426, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEK1108	1/2	25	90	\$1.85
QEK2108	3/4	25	100	1.95
QEK3108	1	10	50	2.05

Type QEJ Condulets

Weatherproof, galvanized or enamel. Take round base lock snap switches. Furnished with adjustable bar and screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEJ1108	1/2	25	100	\$2.15
QEJ2108	3/4	25	110	2.25
QEJ3108	1	10	55	2.35





QE Series Condulets

Form 1096

These Condulets are for installation exposed to the weather or where it is desired to protect the switch or receptacle from mechanical injury.

They are made in two parts: body and housing. The body is furnished with an adjustable bar for mounting the switch or attachment plug receptacle. The hubs are cast solid with the body and have an integral bushing and tapered thread. The housing is fastened to the body by four screws and is provided with a self-closing spring door.

The door can be locked with a padlock to prevent unauthorized persons operating the switch.

The housing can be mounted so that the door will be hinged at 90, 180, or 270 degrees from the position shown in the illustrations.

Any assortment of 100 black enameled and galvanized Condulets of the QE series, form 1096, will be considered a standard package.

Type QEE Condulets

Take round base thumb knob snap switches or attachment plug receptacles. Furnished with adjustable bar and screws. Wiring devices, pages 426 and 427, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEE11096	1/2	25	100	\$2.65
QEE21096	3/4	25	110	2.75
QEE31096	1	10	55	2.85

Type QEF Condulets

Weatherproof, galvanized or enamel. Take round base thumb knob snap switches or attachment plug receptacles. With adjustable bar and screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEF11096	1/2	25	110	\$2.80
QEF21096	3/4	25	120	2.90
QEF31096	1	10	60	3.00

Type QED Condulets

Weatherproof, galvanized or enamel. Take round base thumb knob snap switches or attachment plug receptacles. Furnished with adjustable bar and screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QED11096	1/2	25	120	\$3.10
QED21096	3/4	25	130	3.20
QED31096	1	10	65	3.30

Type QEG Condulets

Take round base thumb knob snap switches or attachment plug receptacles. Furnished with adjustable bar and screws. Wiring devices, pages 426 and 427, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEG11096	1/2	25	130	\$2.95
QEG21096	3/4	25	140	2.95
QEG31096	1	10	70	3.05

Type QEK Condulets

Take round base thumb knob snap switches or attachment plug receptacles. Furnished with adjustable bar and screws. Wiring devices, pages 426 and 427, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEK11096	1/2	25	110	\$2.65
QEK21096	3/4	25	120	2.75
QEK31096	1	10	60	2.85

Type QEJ Condulets

Take round base thumb knob snap switches or attachment plug receptacles. Furnished with adjustable bar and screws. Wiring devices, pages 426 and 427, Condulet catalogue No. 2000.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEJ11096	1/2	25	120	\$2.95
QEJ21096	3/4	25	130	3.05
QEJ31096	1	10	65	3.15

QE Series Condulets

Forms 106 and 206

Two-pole Condulets are furnished with 30-ampere, 250-volt receptacle RQH302, which takes plug RQ302. Three-pole Condulets are furnished with 30-ampere, 250-volt receptacle RQH303, which takes plug RQ303. Plugs, see end of QE series, forms 1066 and 2066.

Consists of two parts: body and receptacle housing.

They are weatherproof and easy to wire. The wires can be drawn out of the body and the connections with the receptacle made in the open. After this is done, the wires are pushed back into the body and the receptacle housing is fastened to the body by four heavy screws. This operation also securely clamps the receptacle in place.

There is no danger of the operator injuring his knuckles when inserting or removing the plug. Receptacle is protected from damage as it sets back in the housing.

Any assortment of 25 black enameled and galvanized Condulets of the QE series, forms 106 and 206, will be considered a standard package.

Type QEE Condulets

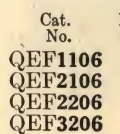
Weatherproof; galvanized or enamel.



Cat. No.	No. of Poles	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEE1106	2	1/2	25	90	\$3.80
QEE2106	2	3/4	25	95	3.90
QEE2206	3	3/4	25	165	5.65
QEE3206	3	1	25	175	5.75

Type QEF Condulets

Weatherproof; galvanized or enamel.



Cat. No.	No. of Poles	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEF1106	2	1/2	25	100	\$3.95
QEF2106	2	3/4	25	105	4.05
QEF2206	3	3/4	25	195	5.80
QEF3206	3	1	25	205	5.90



Type QED Condulets

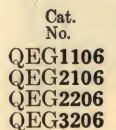
Weatherproof; galvanized or enamel.



Cat. No.	No. of Poles	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QED1106	2	1/2	25	105	\$4.25
QED2106	2	3/4	25	110	4.35
QED2206	3	3/4	25	200	6.10
QED3206	3	1	25	210	6.20

Type QEG Condulets

Weatherproof; galvanized or black enamel finish.



Cat. No.	No. of Poles	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEG1106	2	1/2	25	110	\$4.00
QEG2106	2	3/4	25	115	4.10
QEG2206	3	3/4	25	205	5.90
QEG3206	3	1	25	215	6.00



Type QEK Condulets

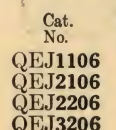
Weatherproof; galvanized or enamel.



Cat. No.	No. of Poles	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEK1106	2	1/2	25	100	\$3.80
QEK2106	2	3/4	25	105	3.90
QEK2206	3	3/4	25	195	5.65
QEK3206	3	1	25	205	5.75

Type QEJ Condulets

Weatherproof; galvanized or enamel.



Cat. No.	No. of Poles	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEJ1106	2	1/2	25	110	\$4.10
QEJ2106	2	3/4	25	115	4.20
QEJ2206	3	3/4	25	205	5.95
QEJ3206	3	1	25	215	6.05



**QE Series Condulets****Forms 1066 and 2066**

Plug receptacle Condulets with spring door. Black enamel finish. Two-pole Condulets are furnished with 30-ampere, 250-volt receptacle No. RQH302, which takes plug No. RQ302. Three-pole Condulets are furnished with 30-ampere, 250-volt receptacle No. RQH303, which takes plug No. RQ303.

These Condulets are weather proof and exceptionally easy to wire. The wires can be drawn out of the body and the connections with the receptacle made in the open. After this is done, the wires are pushed back into the body and the receptacle housing is fastened to the body by four heavy screws. This operation also securely clamps the receptacle in place.

Any assortment of 25 black enameled and galvanized Condulets of the QE series, forms 1066 and 2066, will be considered a standard package.

Type QEE Condulets

Galvanized or enamel. Cap., 30 amps., 250 volts.



2-pole					
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
QEE11066	1/2	25	115	\$4.60	
QEE21066	3/4	25	125	4.70	
3-pole					
QEE22066	3/4	25	195	\$6.65	
QEE32066	1	25	205	6.75	

Type QEF Condulets

Galvanized or enamel. Cap., 30 amps., 250 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEF11066	1/2	25	125	\$4.75
QEF21066	3/4	25	135	4.85

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEF22066	3/4	25	225	\$6.80
QEF32066	1	25	235	6.90

**Type QED Condulets**

Galvanized or enamel. Cap., 30 amps., 250 volts.



2-pole					
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
QED11066	1/2	25	130	\$5.05	
QED21066	3/4	25	140	5.15	
3-pole					
QED22066	3/4	25	230	\$7.10	
QED32066	1	25	240	7.20	

Type QEG Condulets

Galvanized or enamel. Cap., 30 amps., 250 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEG11066	1/2	25	135	\$4.80
QEG21066	3/4	25	145	4.90

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEG22066	3/4	25	235	\$6.90
QEG32066	1	25	245	7.00

**Type QEJ Condulets**

Galvanized or enamel. Cap., 30 amps., 250 volts.



2-pole					
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
QEJ11066	1/2	25	135	\$4.90	
QEJ21066	3/4	25	145	5.00	
3-pole					
QEJ22066	3/4	25	235	\$6.95	
QEJ32066	1	25	245	7.05	

Type RQ Plugs

Aluminum handles for RQH, RQJ, and RYQ receptacles. Capacity, 30 amperes, 250 volts, A. C.

Standard package, 25; weight, standard package, No. RQ-302, 30 pounds, No. RQ303, 40 pounds.

Price, No. RQ302, 2-pole.....each \$3.50

" " RQ303, 3 " " 5.00

**QE Series Condulets****Form 66036**

Plug receptacle Condulets with spring door. Furnished with 3-pole 60-ampere, 600-volt receptacle No. BR6036, which takes plug No. BP46036.

Any assortment of 25 black enameled and galvanized Condulets of the QE series, form 66036, will be considered a standard package.

Type QE Condulets

Galvanized or enamel. Cap., 3-pole, 60 amperes, 600 volts.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QE266036	3/4	10	90	\$9.35
QE366036	1	10	95	9.45
QE466036	1 1/4	10	100	9.55

Type QEC Condulets

Galvanized or enamel. Cap., 3-pole, 60 amperes, 600 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEC266036	3/4	10	95	\$9.45
QEC366036	1	10	100	9.55
QEC466036	1 1/4	10	105	9.65

**Type QEE Condulets**

Galvanized or enamel. Cap., 3-pole, 60 amperes, 600 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEE266036	3/4	10	90	\$9.50
QEE366036	1	10	95	9.60
QEE466036	1 1/4	10	100	9.70

**Type QEF Condulets**

Galvanized or enamel. Cap., 3-pole, 60 amperes, 600 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEF266036	3/4	10	105	\$9.65
QEF366036	1	10	110	9.75
QEF466036	1 1/4	10	115	9.85

**Type QED Condulets**

Galvanized or enamel. Cap., 3-pole, 60 amperes, 600 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QED266036	3/4	10	110	\$9.95
QED366036	1	10	115	10.05
QED466036	1 1/4	10	120	10.15

**Type QEJ Condulets**

Galvanized or enamel. Cap., 3-pole, 60 amperes, 600 volts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEJ266036	3/4	10	110	\$9.80
QEJ366036	1	10	115	9.90
QEJ466036	1 1/4	10	120	10.00

**Type BP Plugs**

For QE series of Condulets, form 66036. Cap., 3-pole, 60 amperes, 600 volts. For use with No. 4 deck or armored cable.

Standard package, 10.



Weight, standard package, 45 pounds.
Price, No. BP46036.....each \$7.75



Type BRM Plug Receptacle Condulets

When making semi-permanent or temporary installations either for light or power, it is desirable to include a device that will permit the conduit and wiring system to be easily broken and at the same time not sacrifice any of the protective features of rigid or flexible conduit.

The type BRM plug receptacle Condulets with plugs for rigid or flexible conduit will meet all these conditions.

Type BRM plug receptacle Condulets are made in four styles: plain, threaded, threaded with brass cap, and with spring door.

Two-pole Condulets are furnished with 30-ampere, 250-volt receptacle No. BR2302, which takes 2-pole plugs. Three-pole Condulets are furnished with 30-ampere, 250-volt receptacle No. BR2303, which takes 3-pole BP plugs.

Any assortment of 25 black enameled and galvanized type BRM plug receptacle Condulets will be considered a standard package.



Type BRM Condulets

Plug Receptacle—Plain

Furnished with receptacle. Capacity: 30 amperes, 250 volts A. C. Can be used on D. C. circuits of same rating if circuit is broken before plug is withdrawn.

2-pole

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
BRM1302	1/2	25	60	\$2.50
BRM2302	3/4	25	65	2.60
BRM3302	1	25	70	2.70

3-pole

BRM1303	1/2	25	65	\$3.10
BRM2303	3/4	25	70	3.20
BRM3303	1	25	75	3.30

Type BRM Condulets

Plug Receptacle—Threaded

Furnished with receptacle. Capacity: 30 amperes, 250 volts A. C. Can be used on D. C. circuits of same rating if circuit is broken before plug is withdrawn.



2-pole

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
BRM71302	1/2	25	60	\$2.70
BRM72302	3/4	25	65	2.80
BRM73302	1	25	70	2.90

3-pole

BRM71303	1/2	25	65	\$3.35
BRM72303	3/4	25	70	3.45
BRM73303	1	25	75	3.55



Type BRM Condulets

Plug Receptacle With Brass Cap

Furnished with receptacle and gasket. Capacity: 30 amperes, 250 volts A. C. Can be used on D. C. circuits of same rating if circuit is

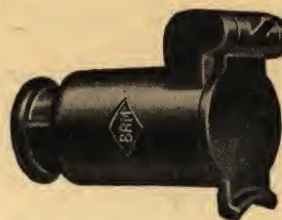
broken before plug is withdrawn.

2-pole

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
BRM81302	1/2	25	75	\$3.65
BRM82302	3/4	25	80	3.75
BRM83302	1	25	85	3.85

3-pole

BRM81303	1/2	25	85	\$4.70
BRM82303	3/4	25	90	4.80
BRM83303	1	25	95	4.90



Type BRM Condulets

Plug Receptacle With Spring Door

Furnished with receptacle. Capacity: 30 amperes, 250 volts, A. C. Can be used on D. C. circuits of same rating if circuit is broken before plug is withdrawn.

2-pole

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
BRM61302	1/2	25	80	\$3.75
BRM62302	3/4	25	85	3.85
BRM63302	1	25	90	3.95

3-pole

BRM61303	1/2	25	90	4.35
BRM62303	3/4	25	95	4.45
BRM63303	1	25	100	4.55

Type BP Non-Watertight Cast Iron Plugs

For BRD, BRG, BRM, and BRY plug receptacle housings. For No. 8 flexible cable. Galvanized or enamel. Cap., 30 amps., 250 volts A. C.

Any assortment of 25 plugs makes a standard package. Std. pkg., 25. Wt., std. pkg. No. BP4302, 35 lbs., No. BP4303, 40 lbs. Price, No. BP4302, 2-pole . . . ea. \$2.85 " " BP4303, 3 " . . . " 3.75



Type BP Watertight Cast Iron Plugs

With Clamping Nut and Gland



For No. 8 deck cable. Galvanized or enamel. Cap., 30 amps., 250 volts A. C. Std. pkg., 25. Wt., std. pkg., No. BP8302, 60 lbs., No. BP8303, 85 lbs.

Price, No. BP8302, 2-pole . . . ea. \$4.50 " " BP8303, 3 " . . . " 5.50

Type BP Non-Watertight Cast Iron Plugs

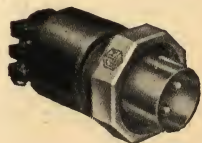
For 1/2-in. flexible conduit or No. 8 BX conductor. Galvanized or enamel. Cap., 30 amps., 250 volts A. C. Std. pkg., 25. Wt., std. pkg., No. BP5302, 45 lbs., No. BP5303, 50 lbs.



Price, No. BP5302, 2-pole . . . ea. \$3.20 " " BP5303, 3 " . . . " 4.00

Type BP Non-Watertight Cast Iron Plugs

With Clamping Nut



For 1/2-in. flexible conduit or No. 8 BX conductor. Galvanized or enamel. Cap., 30 amps., 250 volts A. C. Std. pkg., 25. Wt., std. pkg., No. BP3302, 50 lbs., No. BP7303, 70 lbs.

Price, No. BP3302, 2-pole . . . ea. \$3.75 " " BP7303, 3 " . . . " 4.75

Type BP Non-Watertight Cast Iron Plugs

For 1/2-inch rigid conduit. Galvanized or enamel. Cap., 30 amps., 250 volts A. C. Std. pkg., 25. Wt., std. pkg., No. BP51302, 40 lbs., No. BP51303, 50 lbs.



Price, No. BP51302, 2-pole . . . ea. \$2.75 " " BP51303, 3 " . . . " 4.00

Type BP Watertight Cast Iron Plugs

With Clamping Nut



For 1/2-inch rigid conduit. Galvanized or enamel. Cap., 30 amps., 250 volts A. C. Std. pkg., 25. Wt., std. pkg., No. BP71302, 50 lbs.; No. BP71303, 65 lbs.

Price, No. BP71302, 2-pole . . . ea. \$3.25 " " BP71303, 3 " . . . " 4.75



SK Series Condulets

Condulets of the SK series are for use in concealed conduit installations, particularly in concrete construction. They will take blank covers, or covers with hubs, and are drilled and tapped to take fixture studs or wiring devices. If specifically ordered, drilling for fixture studs will be omitted.

The bodies are provided with two lugs on the outside for nailing to the wooden forms, holding them in place while the concrete is being poured.

There are two blank covers, one of which has countersunk fastening screw holes for flat head screws. This cover is particularly adapted for installations in floors or sidewalks, as the heads of the screws will be flush with the face of the cover. The other cover is furnished with round head screws.

A gasket is made for use with blank covers so that when used with any Condulet of the SK series, an excellent watertight junction box is provided.

Assortments

ASSORTMENTS.—Black enameled and galvanized Condulets of the same type and size may be assorted to make a standard package.

Black enameled and galvanized covers of the same style may be assorted to make a standard package.

SPECIAL ASSORTMENTS.—Any assortment of 100 black enameled and galvanized Condulets of the SK series will be considered a standard package.

Any assortment of 100 black enameled and galvanized covers of the SK series will be considered a standard package.

Type SK Condulet Bodies



Galvanized or black enamel finish.

Take covers, fixture studs, or $3\frac{1}{4}$ -inch outlet box round base wiring devices with $2\frac{3}{4}$ -inch screw centers.

Cat. No.	Size In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SK12	$\frac{1}{2}$	2	50	100	\$1.20
SK22	$\frac{3}{4}$	2	25	55	1.30
SK32	1	2	10	35	1.40
SK13	$\frac{1}{2}$	3	50	110	1.30
SK23	$\frac{3}{4}$	3	25	60	1.40
SK33	1	3	10	40	1.50

Type SKC Condulet Bodies

Galvanized or black enamel finish.

Take covers, fixture studs, or $3\frac{1}{4}$ -inch outlet box round base wiring devices with $2\frac{3}{4}$ -inch screw centers.



Cat. No.	Size In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SKC12	$\frac{1}{2}$	2	50	105	\$1.30
SKC22	$\frac{3}{4}$	2	25	60	1.40
SKC32	1	2	10	40	1.50
SKC13	$\frac{1}{2}$	3	50	115	1.40
SKC23	$\frac{3}{4}$	3	25	65	1.50
SKC33	1	3	10	40	1.60

Type SKL Condulet Bodies



Galvanized or black enamel finish.

Take covers, fixture studs, or $3\frac{1}{4}$ -inch outlet box round base wiring devices with $2\frac{3}{4}$ -inch screw centers.

Cat. No.	Size In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SKL12	$\frac{1}{2}$	2	50	110	\$1.30
SKL22	$\frac{3}{4}$	2	25	65	1.40
SKL32	1	2	10	45	1.50
SKL13	$\frac{1}{2}$	3	50	120	1.40
SKL23	$\frac{3}{4}$	3	25	70	1.50
SKL33	1	3	10	50	1.60

Type SKT Condulet Bodies

Galvanized or black enamel finish.

Take covers, fixture studs, or $3\frac{1}{4}$ -inch outlet box round base wiring devices with $2\frac{3}{4}$ -inch screw centers.



Cat. No.	Size In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SKT12	$\frac{1}{2}$	2	50	115	\$1.40
SKT22	$\frac{3}{4}$	2	25	65	1.50
SKT32	1	2	10	45	1.60
SKT13	$\frac{1}{2}$	3	50	125	1.50
SKT23	$\frac{3}{4}$	3	25	70	1.60
SKT33	1	3	10	50	1.70



Type SKX Condulet Bodies

Galvanized or black enamel finish.

Take covers, fixture studs, or $3\frac{1}{4}$ -inch outlet box round base wiring devices with $2\frac{3}{4}$ -inch screw centers.

Cat. No.	Size In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SKX12	$\frac{1}{2}$	2	50	120	\$1.50
SKX22	$\frac{3}{4}$	2	25	70	1.60
SKX32	1	2	10	50	1.70
SKX13	$\frac{1}{2}$	3	50	130	1.60
SKX23	$\frac{3}{4}$	3	25	75	1.70
SKX33	1	3	10	55	1.80

Hub Covers

For Condulets of the SK Series

Galvanized or black enamel finish.

Furnished with fastening screws.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SK83	$\frac{3}{8}$	50	30	\$.65
SK84	$\frac{1}{2}$	50	30	.75
SK86	$\frac{3}{4}$	50	35	



Blank Covers

For Condulets of the SK Series

Galvanized or black enamel finish.

Furnished with fastening screws.

Cat. No.	Style of Fastening Screw	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SK80	Round Head	50	40	\$.30
SK809	Flat " Countersunk	50	40	.30



Gaskets

For Condulets of the SK Series

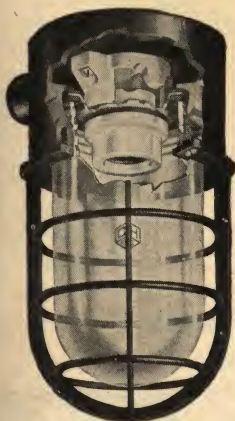
Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
GASK208	50	10	\$.25



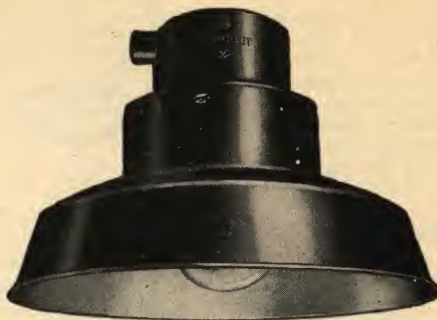


Vaporproof Condulets—V Series, Screw Guard

Form 75 takes 75-watt Mazda C Lamps, 60-watt Mazda B Lamps, or any Lamp not exceeding $2\frac{3}{4} \times 6\frac{1}{8}$ Inches
Form 200 takes 200-watt Mazda C Lamps, 100-watt Mazda B Lamps, or any Lamp not exceeding $3\frac{3}{4} \times 8\frac{3}{8}$ Inches
Furnished with Receptacle, Sealing Plate, Gaskets, Globe, and Guard



Type V, Screw Guard
Broken-away View



Type V, Screw Guard
with Reflector



Type VA, Screw Guard
with Holophane Reflector
Refractor

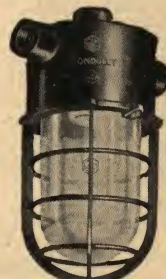


Type VC
Screw Guard

Condulets of the V series, screw guard, are here illustrated and described, as they may interest users of vaporproof Condulets.

This series consists of eighteen types, although but eleven are here shown.

The difference between the V series, screw guard, and the V and VH series, clamp guard, is that in the former the guard screws into the body, while in the latter, it clamps on to the body.



Type VCA
Screw Guard



Type VL
Screw Guard

Two set screws are attached to the guard, either of which will secure it in position. A locking set screw, operated by a special key, can be substituted for either set screw to prevent theft of lamp and globe.

Form 75 is regularly furnished with $6\frac{3}{4}$ -inch globe, V75. Form 200 is regularly furnished with a $9\frac{1}{4}$ -inch globe, V200.



Type VT
Screw Guard



Type VTA
Screw Guard



Type VF
Screw Guard



Type VD
Screw Guard



Type VJ
Screw Guard



Type VX
Screw Guard

**V Series Condulets****Screw Guard**

Vaporproof, galvanized or enamel. Form 75 takes 75-watt Mazda C lamps, 60-watt Mazda B lamps, or any lamp not exceeding 2 $\frac{3}{4}$ x6 $\frac{1}{8}$ inches. Form 200 takes 200-watt Mazda C lamps, 100-watt Mazda B lamps, or any lamp not exceeding 3 $\frac{3}{4}$ x8 $\frac{3}{8}$ inches.

Furnished with receptacle, sealing plate, gaskets, globe and guard.

If specified on order, lamp receptacle with lamp grip will be furnished at a slight advance in list price. For key receptacle, add \$1.00 to list price.

Blue, green, opal, orange and ruby globes can be furnished for Condulet bodies of this series at an advance in list prices.

For reflectors see page 432, Condulet catalogue No. 2000. Any assortment of 100 black enameled and galvanized iron Condulets of the V series, screw guard, will be considered a standard package.

Type V Condulets**Screw Guard**

Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V1759	1 $\frac{1}{2}$	25	140	\$4.50
V2759	3 $\frac{3}{4}$	25	150	4.55
V3759	1	10	75	4.60

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V12009	1 $\frac{1}{2}$	25	180	\$5.40
V22009	3 $\frac{3}{4}$	25	190	5.45
V32009	1	10	100	5.50

Type VA Condulets**Screw Guard**

For reflectors see page 432, Condulet catalogue No. 2000.

Form V75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VA1759	1 $\frac{1}{2}$	25	140	\$4.50
VA2759	3 $\frac{3}{4}$	25	150	4.55
VA3759	1	10	75	4.60

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VA12009	1 $\frac{1}{2}$	25	180	\$5.40
VA22009	3 $\frac{3}{4}$	25	190	5.45
VA32009	1	10	100	5.50

**Type VC Condulets****Screw Guard**

Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VC1759	1 $\frac{1}{2}$	25	145	\$4.60
VC2759	3 $\frac{3}{4}$	25	155	4.70
VC3759	1	10	80	4.80

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VC12009	1 $\frac{1}{2}$	25	185	\$5.50
VC22009	3 $\frac{3}{4}$	25	195	5.60
VC32009	1	10	100	5.65

Type VL Condulets**Screw Guard**

Iron, galvanized or enamel. For reflectors see page 432, Condulet catalogue No. 2000.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VL1759	1 $\frac{1}{2}$	25	145	\$4.60
VL2759	3 $\frac{3}{4}$	25	155	4.70
VL3759	1	10	80	4.80

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VL12009	1 $\frac{1}{2}$	25	185	\$5.50
VL22009	3 $\frac{3}{4}$	25	195	5.60
VL32009	1	10	100	5.65

Type VT Condulets**Screw Guard**

Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VT1759	1 $\frac{1}{2}$	25	150	\$4.75
VT2759	3 $\frac{3}{4}$	25	160	4.85
VT3759	1	10	85	5.05

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VT12009	1 $\frac{1}{2}$	25	190	\$5.60
VT22009	3 $\frac{3}{4}$	25	200	5.75
VT32009	1	10	105	5.85

**Type VX Condulets****Screw Guard**

Iron; galvanized or enamel. For reflectors see page 432, Condulet catalogue No. 2000.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VX1759	1 $\frac{1}{2}$	25	155	\$4.85
VX2759	3 $\frac{3}{4}$	25	165	5.05
VX3759	1	10	85	5.20

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VX12009	1 $\frac{1}{2}$	25	195	\$5.70
VX22009	3 $\frac{3}{4}$	25	205	5.90
VX32009	1	10	105	6.05

**Type VE Condulets****Screw Guard**

Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VE1759	1 $\frac{1}{2}$	25	170	\$4.75
VE2759	3 $\frac{3}{4}$	25	180	4.85
VE3759	1	10	90	4.95

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VE12009	1 $\frac{1}{2}$	25	200	\$5.50
VE22009	3 $\frac{3}{4}$	25	210	5.60
VE32009	1	10	105	5.70





Type VF Condulets

Screw Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard.

For reflectors see page 432, Condulet catalogue No. 2000.

Form 75

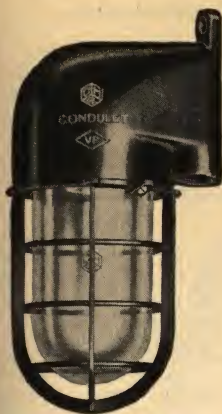
Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VF1759	1/2	25	180	\$4.90
VF2759	3/4	25	190	5.00
VF3759	1	10	95	5.10

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VF12009	1/2	25	210	\$5.75
VF22009	3/4	25	220	5.85
VF32009	1	10	110	5.95



Type VJ Condulets

Screw Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard.

For reflectors see page 432, Condulet catalogue No. 2000.

Form 75

Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VJ1759	1/2	25	220	\$5.15
VJ2759	3/4	25	230	5.25
VJ3759	1	10	120	5.35

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VJ12009	1/2	25	250	\$5.90
VJ22009	3/4	25	260	6.00
VJ32009	1	10	130	6.10



Type VG Condulets

Screw Guard

Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Form 75

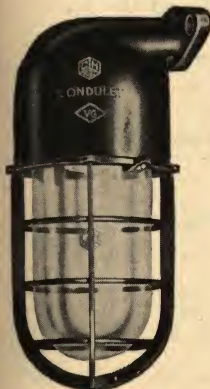
Complete with No. V75 Globe, and No. V759 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VG1759	1/2	25	175	\$4.75
VG2759	3/4	25	190	4.85
VG3759	1	10	100	4.95

Form 200

Complete with No. V200 Globe, and No. V2009 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VG12009	1/2	25	245	\$5.50
VG22009	3/4	25	260	5.60
VG32009	1	10	130	5.70



Globes for V Series Condulets

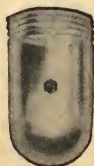
For V series, screw guard, Condulets and GS vaporproof fixtures. Clear glass.

Form 75

Cat. No.	Length Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V 75	6 3/4	25	30	\$.80

Form 200

Cat. No.	Length Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V200	9 1/4	25	60	.80



Guards for V Series Condulets

For V series screw guard Condulets, and GS vaporproof fixtures. Brass, marine finish.

Form 75

Cat. No.	For Globe Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V759	6 3/4	25	35	\$1.80

Form 200

Cat. No.	For Globe Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V2009	9 1/4	25	45	\$2.25



V and VH Series Condulets

Clamp Guard

These Condulets are vaporproof. Iron, black enamel finish. V series takes 75-watt Mazda C lamps, 60-watt Mazda B lamps, or any lamp not exceeding 2 3/4 x 6 1/8 inches.

VH series takes 200-watt Mazda C lamps, 100-watt Mazda B lamps, or any lamp not exceeding 3 3/4 x 8 3/8 inches.

For those installing vaporproof fixtures for the first time, various types of V series with screw guard are recommended.

Changes have been made in the globes and guards now forming a part of the standard equipment in these series of Condulets, in order to make provision for the Mazda C lamps.

If specified on the order, the original globes V8 and VH8 will be substituted at the same price, for V75 and V200 globes, respectively.

Any assortment of 100 black enameled and galvanized iron Condulets of the V and VH series, clamp guard, will be considered a standard package.

Types V and VH Condulets

Clamp Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard.

For reflectors see page 432, Condulet catalogue No. 2000.

Type V

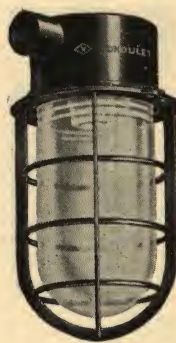
Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V189	1/2	25	120	\$4.50
V289	3/4	25	130	4.55
V389	1	10	65	4.60

Type VH

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VH189	1/2	25	160	\$5.40
VH289	3/4	25	170	5.45
VH389	1	10	90	5.50



Types VA and VHA Condulets

Clamp Guard

Vaporproof. Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Type VA

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VA189	1/2	25	120	\$4.50
VA289	3/4	25	130	4.55
VA389	1	10	65	4.60

Type VHA

Complete with No. V200 Globe and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHA189	1/2	25	160	\$5.40
VHA289	3/4	25	170	5.45
VHA389	1	10	90	5.50



Types VC and VHC Condulets

Clamp Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard.

For reflectors see page 432, Condulet catalogue No. 2000.

Type VC

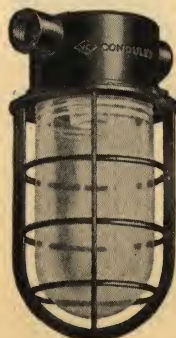
Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VC1189	1/2	25	125	\$4.60
VC2289	3/4	25	135	4.70
VC3389	1	10	70	4.80

Type VHC

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHC1189	1/2	25	165	\$5.50
VHC2289	3/4	25	175	5.60
VHC3389	1	10	90	5.65





Types VL and VHL Condulets

Clamp Guard

Vaporproof. Galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Type VL

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VL1189	1/2	25	125	\$4.60
VL2289	3/4	25	135	4.70
VL3389	1	10	70	4.80

Type VHL

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHL1189	1/2	25	165	\$5.50
VHL2289	3/4	25	175	5.60
VHL3389	1	10	90	5.65



Types VT and VHT Condulets

Clamp Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard. For reflectors see page 432, Condulet catalogue No. 2000.

Type VT

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VT11189	1/2	25	130	\$4.75
VT22289	3/4	25	140	4.85
VT33389	1	10	75	5.05

Type VHT

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHT11189	1/2	25	170	\$5.60
VHT22289	3/4	25	180	5.75
VHT33389	1	10	95	5.85



Types VX and VHX Condulets

Clamp Guard

Vaporproof. Galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Type VX

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VX111189	1/2	25	135	\$4.85
VX222289	3/4	25	145	5.05
VX333389	1	10	75	5.20

Type VHX

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHX111189	1/2	25	175	\$5.70
VHX222289	3/4	25	185	5.90
VHX333389	1	10	95	6.05



Types VE and VHE Condulets

Clamp Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard. For reflectors see page 432, Condulet catalogue No. 2000.

Type VE

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VE189	1/2	25	150	\$4.75
VE289	3/4	25	160	4.85
VE389	1	10	80	4.95

Type VHE

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHE189	1/2	25	180	\$5.50
VHE289	3/4	25	190	5.60
VHE389	1	10	95	5.70



Types VF and VHF Condulets

Clamp Guard

Furnished with receptacle, sealing plate, gaskets, globe and guard. For reflectors see page 432, Condulet catalogue No. 2000.

Type VF

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VF189	1/2	25	160	\$4.90
VF289	3/4	25	170	5.00
VF389	1	10	85	5.10

Type VHF

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHF189	1/2	25	190	\$5.75
VHF289	3/4	25	200	5.85
VHF389	1	10	100	5.95



Types VJ and VHJ Condulets

Clamp Guard

Vaporproof. Iron, galvanized or enamel. Furnished with receptacle, sealing plate, gaskets, globe and guard.

Type VJ

Complete with No. V75 Globe, and No. V97 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VJ1189	1/2	25	200	\$5.15
VJ2289	3/4	25	210	5.25
VJ3389	1	10	110	5.35

Type VHJ

Complete with No. V200 Globe, and No. VH99 Guard

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VHJ1189	1/2	25	230	\$5.90
VHJ2289	3/4	25	240	6.00
VHJ3389	1	10	120	6.10



Globes

For Condulets of V and VH Series

Clamp Guard

For V Series

Cat. No.	Length In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V8	6	25	30	\$.80

For VH Series

Cat. No.	Length In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VH8	8 1/4	25	60	\$.80



Guards

For Condulets of V and VH Series

Clamp Guard

For V Series

Cat. No.	Will Take Globe, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V97	6 or 6 3/4	25	35	\$1.80

For VH Series

Cat. No.	Will Take Globe, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VH99	8 1/4 or 9 1/4	25	45	\$2.25



Guards

With Reflector Holders

Brass, marine finish. For Condulets of V and VH series, clamp guard.

Cat. No.	For Series	Will Take Globe, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V71	V	6	25	50	\$2.00
V771	V	6 3/4	25	60	2.00
VH71	VH	8 1/4	25	70	2.50
VH791	VH	9 1/4	25	80	2.50

Reflector Holders

For Condulets of V and VH Series

Clamp Guard

Brass marine finish. Standard package, 25. Weight, standard package, No. V61, 20 pounds; No. VH61, 30 pounds; No. V62, 25 pounds; No. VH62, 35 pounds.

Price, No.	Price, No.
V61.....each	\$1.40
" " VH61....."	1.65
" " V62....."	1.40
" " VH62....."	1.65





Vaporproof Condulets with Reflectors V Series, Screw Guard

Type VDA



Iron, galvanized or black enamel finish.

Form 75 with Globe V75

With Reflector SH21 for 50-watt Lamps

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VDA1821	1/2	25	215	\$5.70
VDA2821	3/4	25	220	5.75
VDA3821	1	10	80	5.80

With Reflector SH22 for 75-watt Lamps

VDA1822	1/2	25	225	\$6.20
VDA2822	3/4	25	230	6.25
VDA3822	1	10	85	6.30

Form 200 with Globe V200

With Reflector SH23 for 100 and 150-watt Lamps

VDA1823	1/2	25	305	\$7.15
VDA2823	3/4	25	315	7.20
VDA3823	1	10	140	7.25

With Reflector SH24 for 200-watt Lamps

VDA1824	1/2	25	340	\$7.65
VDA2824	3/4	25	350	7.70
VDA3824	1	10	155	7.75

Type VA



Iron, galvanized or black enamel finish.

Form 75 with Globe V75

With Reflector SH21 for 50-watt Lamps

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VA1821	1/2	25	215	\$5.70
VA2821	3/4	25	220	5.75
VA3821	1	10	80	5.80

With Reflector SH22 for 75-watt Lamps

VA1822	1/2	25	225	\$6.20
VA2822	3/4	25	230	6.25
VA3822	1	10	85	6.30

Form 200 with Globe V200

With Reflector SH23 for 100 and 150-watt Lamps

VA1823	1/2	25	305	\$7.15
VA2823	3/4	25	315	7.20
VA3823	1	10	140	7.25

With Reflector SH24 for 200-watt Lamps

VA1824	1/2	25	340	\$7.65
VA2824	3/4	25	350	7.70
VA3824	1	10	155	7.75

SPECIAL ASSORTMENT.—Any assortment of 100 black enameled and galvanized Condulets of the V series, screw guard, with reflectors, will be considered a standard package.

Type VC Vaporproof Condulets with Reflectors—V Series, Screw Guard



Form 75 with Globe V75

With Reflector SH21 for 50-watt Lamps

Iron, galvanized or black enamel finish.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VC1821	1/2	25	225	\$5.80
VC2821	3/4	25	230	5.90
VC3821	1	10	85	6.00

With Reflector SH22 for 75-watt Lamps

VC1822	1/2	25	235	\$6.30
VC2822	3/4	25	240	6.40
VC3822	1	10	90	6.50

Form 200 with Globe V200

With Reflector SH23 for 100 and 150-watt Lamps

VC1823	1/2	25	315	\$7.25
VC2823	3/4	25	325	7.35
VC3823	1	10	145	7.40

With Reflector SH24 for 200-watt Lamps

VC1824	1/2	25	350	\$7.75
VC2824	3/4	25	360	7.85
VC3824	1	10	160	7.90

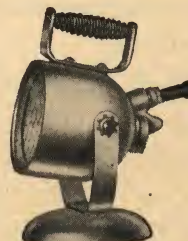
Type VSB Portable Protected Vaporproof Lanterns



Takes 75-watt Mazda C lamps, 60-watt Mazda B lamps or any lamp not exceeding 2 3/4 x 6 1/8 inches. Furnished with bail, key receptacle with lamp grip, gaskets, globe, and guard.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
VSB075	10	75	\$10.00

Type LM Portable Protected Lanterns



Takes 15 and 25-watt Mazda G18 1/2 lamps, 25 and 50-watt Mazda P19 lamps, or any lamp not exceeding 3 3/4 inches in length. Furnished with receptacle with lamp grip, cord clamp, plain wire glass front, and gasket.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LM50	5	50	\$10.00



Type VS Vaporproof Portable Hand Lamps

Type VS hand lamps for extension cords are well suited for use in garages, refineries, bakeries, flour mills, grain elevators, marine work, or wherever inflammable vapor, dust, or moisture is present.

The globe screws into the body and is protected by a guard. If armored cord or flexible conduit is to be used with these hand lamps, CGU or CGV connectors of the proper size should be ordered.

Type VS Portable Hand Lamps

Screw Guard

Vaporproof, with 5 $\frac{3}{4}$ -inch globe. Takes 60-watt Mazda B lamps or any lamp not exceeding 2 $\frac{3}{4}$ x5 $\frac{3}{4}$ inches.

Aluminum, scratch brush finish.

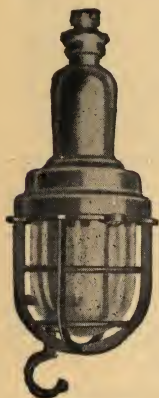
Furnished with receptacle, gaskets, globe, guard, cord guard spring, and water-tight stuffing box in handle.

If specified on order, lamp receptacle with lamp grip will be furnished at slight addition to list price.

Standard package, 25.

Weight, standard package, 70 pounds.

Price, No. VS060.....each \$6.15



Type VS Portable Hand Lamps

Clamp Guard

Vaporproof, with 5-inch globe. Takes 40-watt Mazda B lamps or any lamp not exceeding 2 $\frac{3}{4}$ x5 $\frac{1}{4}$ inches.

Aluminum, scratch brush finish.

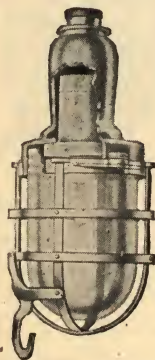
Furnished with receptacle, gaskets, globe, guard, cord guard spring, and water-tight stuffing box in handle.

If specified on order, lamp receptacle with lamp grip will be furnished at slight addition to list price.

Standard package, 25.

Weight, standard package, 65 pounds.

Price, No. VS05.....each \$6.15



Guard for Type VS Portable Hand Lamps

Screw Guard

Galvanized iron. Will accommodate globe 5 $\frac{3}{4}$ inches long.

Standard package, 25.

Weight, standard package, 30 pounds.

Price, No. VS0955.....each \$2.00



Guard for Type VS Portable Hand Lamps

Clamp Guard

Galvanized iron. Will accommodate globe 5 inches long.

Standard package, 25.

Weight, standard package, 30 pounds.

Price, No. VS095.....each \$2.00



Globes for Type VS Portable Hand Lamps

Clear Glass

For use with type VS portable hand lamps.

Cat. No.	Length In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
V85	5	25	30	\$.80
V15	5 $\frac{3}{4}$	25	30	.80



P Series Condulets

Used in exposed conduit systems, and take standard canopies and standard canopy insulating rings from four to six inches in diameter.

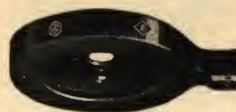
Take electroliers or combination gas and electric fixtures.

Any assortment of 100 black enameled and galvanized Condulets of the P series will be considered a standard package.

Type P Condulets

Galvanized or enamel. Furnished with screws for fixture stud.

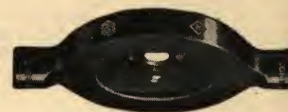
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
P1	1 $\frac{1}{2}$	25	90	\$1.40
P2	3 $\frac{3}{4}$	25	95	1.55
P3	1	10	55	1.70
P4	1 $\frac{1}{4}$	10	65	1.85
P5	1 $\frac{1}{2}$	10	80	2.00



Type PC Condulets

Galvanized or enamel. Furnished with screws for fixture stud.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PC1	1 $\frac{1}{2}$	25	100	\$1.50
PC2	3 $\frac{3}{4}$	25	110	1.65
PC3	1	10	60	1.80
PC4	1 $\frac{1}{4}$	10	70	1.95
PC5	1 $\frac{1}{2}$	10	85	2.10



Type PL Condulets

Galvanized or enamel. Furnished with screws for fixture stud.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PL1	1 $\frac{1}{2}$	25	100	\$1.50
PL2	3 $\frac{3}{4}$	25	110	1.65
PL3	1	10	60	1.80
PL4	1 $\frac{1}{4}$	10	70	1.95
PL5	1 $\frac{1}{2}$	10	85	2.10



PM Series of Condulets

Used in exposed conduit systems, and take standard canopies and standard canopy insulating rings from three to four inches in diameter.

Take electroliers or combination gas and electric fixtures.

Any assortment of 100 black enameled and galvanized Condulets of the PM series will be considered a standard package.

Type PM Condulets

Galvanized or enamel. Furnished with screws for fixture stud.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PM1	1 $\frac{1}{2}$	25	60	\$.90
PM2	3 $\frac{3}{4}$	25	65	1.05
PM3	1	10	45	1.20
PM4	1 $\frac{1}{4}$	10	50	1.35
PM5	1 $\frac{1}{2}$	10	55	1.50



Type PMC Condulets

Galvanized or enamel. Furnished with screws for fixture stud.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PMC1	1 $\frac{1}{2}$	25	80	\$1.05
PMC2	3 $\frac{3}{4}$	25	85	1.20
PMC3	1	10	45	1.35
PMC4	1 $\frac{1}{4}$	10	50	1.50
PMC5	1 $\frac{1}{2}$	10	55	1.65



Type PML Condulets

Galvanized or enamel. Furnished with screws for fixture stud.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PML1	1 $\frac{1}{2}$	25	80	\$1.05
PML2	3 $\frac{3}{4}$	25	85	1.20
PML3	1	10	45	1.35
PML4	1 $\frac{1}{4}$	10	50	1.50
PML5	1 $\frac{1}{2}$	10	55	1.65





Type FF Condulets 2 or 3-wire, 250 Volts

These are service entrance Condulets, fusible and weather-proof. Wiring devices, pages 436 to 438, Condulet catalogue No. 2000. Take main line fuse cutouts.

The service wire enters the bottom of the fuse cutout compartment through a porcelain bushing, thus preventing grounding, even though the insulation becomes damaged.

Furnished with removable conduit hub plate, cutout fastening plate, porcelain bushings, screws and bolts, but without cutouts.

Any assortment of 50 black enameled and galvanized Condulets of the FF series will be considered a standard package.



Cat. No.	Cap. Amp.	Size In.	Std. Pkg.	Wt. Lbs.	Price Each
FF1302	30	1/2	20	260	\$7.80
FF2302	30	3/4	20	270	7.90
FF3302	30	1	10	140	8.00
FF3602	60	1	10	150	10.00
FF4602	60	1 1/4	10	155	10.10
FF31002	100	1	10	225	19.00
FF51002	100	1 1/2	5	115	19.20
FF61002	100	2	5	120	19.30

Type FFA Condulets 2 or 3-wire, 250 Volts

Service entrance Condulets. Take main line fuse cutouts. Wiring devices, pages 436 to 438, Condulet catalogue No. 2000.

Threaded hub for Condulet enters from rear.

Furnished with removable conduit hub plate, cutout fastening plate, porcelain bushings, screws and bolts, but without cutout.



Cat. No.	Cap. Amp.	Size In.	Std. Pkg.	Wt. Lbs.	Price Each
FFA1302	30	1/2	20	270	\$7.80
FFA2302	30	3/4	20	280	7.90
FFA3302	30	1	10	145	8.00
FFA3602	60	1	10	155	10.00
FFA4602	60	1 1/4	10	165	10.10

LA Series Aisle Light Condulets

Take 10-watt S-14 Mazda B lamps or any lamp not exceeding 1 3/4 x 4 1/4 inches. Furnished with lamp receptacle.

These Condulets are shallow and when installed at the end of a row of seats do not obstruct the aisle. The front of the Condulet is easily removed, facilitating the renewal of lamps. No glass is used. If a more subdued light is desired colored bulbs (preferably green) can be used.

The light is so shielded that it is not objectionable to spectators or performers.



Type LA—For Orchestra Floors

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LA1	1/2	25	140	\$2.75
LA2	3/4	25	140	2.85
LA3	1	25	140	2.95

Type LAL—For Balconies

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LAL1	1/2	25	140	\$2.75
LAL2	3/4	25	140	2.85
LAL3	1	25	140	2.95



Type LAR—For Balconies

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LAR1	1/2	25	140	\$2.75
LAR2	3/4	25	140	2.85
LAR3	1	25	140	2.95

Y Series Condulets

Galvanized or enamel. Take fuse cutouts. Furnished with cutout fastening plate, screws and bolts. Hubs are cast solid with body.

These Condulets have sheet steel doors with spring catches, except types Y and YC, 30 or 60-ampere, 600-volt, 3-wire, which have cast iron doors with spring catches.

If specifically ordered, the Condulets and covers will be drilled for a seal wire, at a slight advance in the list price.

These Condulets are designed to take wires which will enter the grooves or terminals of the fuse cutout of the same rating as the Condulet. The additional space in the hubs is for the passage of extra wires.

Any assortment of 50 black enameled and galvanized Condulets of the Y series will be considered a standard package.

Type Y Condulets



Galvanized or enamel.

Take main line fuse cutouts.

Furnished with cutout fastening plate, screws and bolts, but without cutouts.

Wiring devices, pages 436 to 438, Condulet catalogue No. 2000.

2-wire, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
Y1302	1/2	15	90	\$2.35
Y2302	3/4	15	100	2.45
Y3302	1	10	70	2.55

3-wire, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
Y1303	1/2	15	125	2.85
Y2303	3/4	15	135	2.95

2-wire, 60-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
Y2602	3/4	15	150	3.65
Y3602	1	10	100	3.75
Y4602	1 1/4	10	110	3.85

Type YC Condulets

Galvanized or enamel.

Take main line fuse cutouts.

Furnished with cutout fastening plate, screws and bolts, but without cutouts.

Wiring devices, pages 436 to 438, Condulet catalogue No. 2000.

2-wire, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YC1302	1/2	15	95	\$2.50
YC2302	3/4	15	105	2.60
YC3302	1	10	75	2.70
YC4302	1 1/4	10	80	2.80



3-wire, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YC1303	1/2	15	130	3.00
YC2303	3/4	15	140	3.10
YC3303	1	10	95	3.20
YC4303	1 1/4	10	100	3.30

2-wire, 60-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YC2602	3/4	15	155	3.80
YC3602	1	10	105	3.90
YC5602	1 1/2	5	55	4.00

3-wire, 60-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YC2603	3/4	15	180	4.20
YC3603	1	10	120	4.30
YC4603	1 1/4	10	125	4.40
YC5603	1 1/2	5	65	4.50



YY Series Condulets

Take fuse cutouts. Furnished with cast iron door, cast iron hinges, and spring catches, removable conduit hub plates, cutout fastening plate, screws and bolts for cutout fastening plate.

The removable hub plates provide flexibility in installing, especially where the installation will not permit turning the conduit or Condulet.

The hubs are tangent to the back of the Condulet body; but by reversing the conduit hub plate, a projection frequently can be avoided without offsetting the conduit.

Wiring devices, pages 436 to 438, Condulet catalogue No. 2000. Plug receptable housings, see end of ZP series.

Any assortment of 50 black enameled and galvanized Condulets and Condulet bodies of the YY series will be considered a standard package.

Type YY Condulets Without Hub Plates



For types YY, YYC and YYQ Condulets. Galvanized or enamel. Take main line fuse cutouts. Furnished with cast iron doors, cutout fastening plate, and screws and bolts for cutout fastening plate.

If specified, a cabinet lock and key, in addition to the spring catch, will be furnished at an advance in list price.

Cat. No.	FOR CUTOUTS Wire	Amp.	Take Hub Plates	Take Housings	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
YY55302	2	30	YYP5	BR5	15	150		\$3.50
YY77303	2 or 3	30	YYP7	BR7	15	195		4.30
YY77602	2	60	YYP7	BR7	15	210		5.10
YY88603	3	60	YYP8	.....	15	285		6.40
YY881002	2	100	YYP8	.....	10	220		7.40
YY881003	3	100	YYP8	.....	10	290		9.40
YY776016	1	30-60	YYP7	.....	15	240		5.50
YY886036	3	30-60	YYP8	.....	15	420		8.40

Type YYS Condulets

Without Hub Plates

For YYL, YYR and YYS Condulets.

Galvanized or enamel.

Take main line or single branch fuse cutouts.



Cat. No.	FOR CUTOUTS Wire	Amp.	Take Hub Plates	Take Housings	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
YYS55302	2	30	YYP5	BR5	15	195		\$4.30
YYS77303	2 or 3	30	YYP7	BR7	15	240		5.00
YYS77602	2	60	YYP7	BR7	15	240		5.80
YYS88603	3	60	YYP8	.....	15	300		7.00
YYS886036	3	30-60	YYP8	.....	15	430		9.60

Type YYX Condulets



For types YYD and YYX Condulets.

Take double branch fuse cutouts.

Cat. No.	FOR CUTOUTS Wire	Amp.	Take Hub Plates	Take Housings	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
YYX77302	2 or 3 to 2-wire	30	YYP7	BR7	15	285		\$5.70
YYX77303	3-wire	30	YYP7	BR7	15	315		6.80
YYX77602	2 or 3 to 2-wire	60	YYP7	BR7	15	375		8.70
YYX88603	3-wire	60	YYP8	.....	15	420		9.80

Conduit Hub Plates

For Condulet Bodies of YY, YW and ZP Series

Cast iron, galvanized or enamel. Furnished with screws.

Any assortment of 50 black enameled and galvanized conduit hub plates for Condulet bodies of the YY and YW series, will be considered a standard package.

YYP5 Series Hub Plates

Dimensions, 2 3/4 x 3 3/4 Inches

Cast iron, galvanized or black enamel finish.

With One Hub, Straight

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
YYP51	1/2	15	20	\$.40
YYP52	3/4	15	20	.50
YYP53	1	15	25	.60
YYP54	1 1/4	15	25	.70
YYP55	1 1/2	15	30	.80
YYP500	Blank	15	15	.25



With One Hub, 90° Front or Back

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
YYAP51	1/2	15	20	\$.50
YYAP52	3/4	15	20	.60



YYP7 and YYP8 Series Conduit Hub Plates

Cast iron, galvanized or black enamel finish.

Standard package quantity all sizes and types, 15.

With One Hub, Straight

YYP7 Series 2 3/4 x 4 1/2 Inches					YYP8 Series 3 1/4 x 4 1/2 Inches				
Size In.	Cat. No.	Wt. Lbs. Std. Pkg.	Price Each		Cat. No.	Wt. Lbs. Std. Pkg.	Price Each		
1/2	YYP71	20	\$.45	YYP81	25	\$.55			
3/4	YYP72	20	.55	YYP82	25	.65			
1	YYP73	25	.65	YYP83	30	.75			
1 1/4	YYP74	25	.75	YYP84	30	.85			
1 1/2	YYP75	30	.85	YYP85	35	.95			
2	YYP76	30	.95	YYP86	40	1.05			



With Two Hubs, Straight

1/2	YYP711	25	.60	YYP811	30	.70
3/4	YYP722	25	.70	YYP822	30	.80
1	YYP733	30	.80	YYP833	35	.90
1 1/4	YYP744	30	.90	YYP844	35	1.00



With One Hub, 90° Back or Front

1/2	YYAP71	25	.55	YYAP81	30	.65
3/4	YYAP72	25	.65	YYAP82	30	.75
1	YYAP73	30	.75	YYAP83	35	.85
1 1/4	YYAP74	30	.85	YYAP84	35	.95
1 1/2	YYAP75	35	.95	YYAP85	40	1.05



With One Hub, 90° Left or Right

1/2	YYLP71	25	.55	YYLP81	30	.65
3/4	YYLP72	25	.65	YYLP82	30	.75
1	YYLP73	30	.75	YYLP83	35	.85
1 1/4	YYLP74	30	.85	YYLP84	35	.95
1 1/2	YYLP75	35	.95	YYLP85	40	1.05



With Two Hubs, 90° Left or Right

1/2	YYSP71	30	.60	YYSP81	35	.70
3/4	YYSP72	30	.70	YYSP82	35	.80
1	YYSP73	35	.80	YYSP83	40	.90
1 1/4	YYSP74	35	.90	YYSP84	40	1.00
1 1/2	YYSP75	40	1.00	YYSP85	45	1.10



Blank

Blank	YYP700	20	.30	YYP800	25	.40
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YW Series Condulets

Take fuse cutouts.

Watertight galvanized or enamel. Furnished with cast iron door, gaskets, cutout fastening plate, screws and bolts.

Have gasketed cast iron doors with adjustable eye-bolt hinges. An eye-bolt with a wing nut clamps the door tight. The wing nut is constructed to permit the insertion of a padlock whereby the door can be locked.

Wiring devices, pages 436 to 438, Condulet catalogue No. 2000.

Conduit hub plates, see end of YY series. Plug receptacle housings, see end of ZP series.

These Condulets are designed to take wires which will enter the grooves or terminals of the fuse cutout of the same rating as the Condulet. The additional space in the hubs is for the passage of extra wires.

Any assortment of 25 black enameled and galvanized Condulets and Condulet bodies of the YW series will be considered a standard package.

Type YW Condulets

Without Hub Plates

Galvanized or enamel. For types YW, YWC and YWQ Condulets. Take main line fuse cutouts. 250 and 600 volts.

Furnished with cast iron door, gaskets, cutout fastening plate and screws and bolts for cutout fastening plate.

* YW886036 and 776016 are 600 volts.



Cat. No.	FOR CUTOUTS Wire	Amp.	Take Hub Plates	Take Housings	Std. Pkg.	Wt., Lbs.	Price Each
YW55302	2	30	YYP5	BRY5	15	165	\$4.50
YW77303	2 or 3	30	YYP7	BRY7	15	210	5.45
YW77602	2	60	YYP7	BRY7	15	220	6.20
YW88603	3	60	YYP8	.....	15	295	7.50
YW881002	2	100	YYP8	.....	10	230	9.40
YW881003	3	100	YYP8	.....	10	300	11.30
YW776016	1	*30-60	YYP7	.....	15	250	7.40
YW886036	3	*30-60	YYP8	.....	15	430	10.40

Type YWS Condulets

Without Hub Plates

Galvanized or enamel. For types YWL, YWR and YWS Condulets. Take main line or single branch fuse cutouts. 250 and 600 volts. Furnished with cast iron door, gaskets, cutout fastening plate, and screws and bolts for cutout fastening plate.

*YWS886036 is 600 volts.



Cat. No.	FOR CUTOUTS Wire	Amp.	Take Hub Plates	Take Housings	Std. Pkg.	Wt., Lbs.	Price Each
YWS55302	2	30	YYP5	BRY5	15	200	\$5.50
YWS77303	2 or 3	30	YYP7	BRY7	15	245	6.40
YWS77602	2	60	YYP7	BRY7	15	245	7.95
YWS88603	3	60	YYP8	.....	15	305	9.00
YWS886036	3	*30-60	YYP8	.....	15	450	11.10

Type YWX Condulets

Without Hub Plates

Galvanized or enamel, for types YWD and YWX Condulets. Take double branch fuse cutouts. 250 V. Furnished with cast iron door, gaskets, cutout fastening plate, and screws and bolts for cutout fastening plate.



Cat. No.	FOR CUTOUTS Wire	Amp.	Take Hub Plates	Take Housings	Std. Pkg.	Wt., Lbs.	Price Each
YWX77302	2 or 3 to 2	30	YYP7	BRY7	15	290	\$7.80
YWX77303	.3	30	YYP7	BRY7	15	320	8.95
YWX77602	2 or 3 to 2	60	YYP7	BRY7	15	380	10.85
YWX88603	3	60	YYP8	.....	15	430	12.05

ZP Series Condulets

Galvanized or enamel. Conduit hub plates see, YYP5 and YYP7 series, end of YY series. Plug receptacle housings, see end of this series.

Furnished with cast iron door, cutout fastening plates, screws and bolts.

Any assortment of 50 black enameled and galvanized Condulets and Condulet bodies of the ZP series will be considered a standard package.

Type ZP Condulets

Without Hub Plates

For types ZP, ZPC and ZPQ Condulets. Take main line cutouts, covers, round base switches or flush rectangular wiring devices and plug receptacle housing.



Cat. No.	Form	Hub Plates	Housings	Std. Pkg.	Wt., Lbs.	Price Each
ZP55302	302	YYP5	BRY5	15	195	\$4.60
ZP77303	303	YYP7	BRY7	15	285	\$5.80
ZP773016	3016	YYP7	BRY7	15	345	\$7.30
ZP773036	3036	YYP7	BRY7	15	450	\$9.60

Type ZPS Condulets

Without Hub Plates

For types ZPL, ZPR, and ZPS Condulets.

Cutouts, pages 436 and 437; other wiring devices, pages 434 to 436, Condulet catalogue No. 2000.

Furnished with cast iron door, cutout fastening plate, and screws and bolts for cutout fastening plate.

2-wire, 30-ampere, 250-volt

Cat. No.	Form	Take Hub Plates	Take Housings	Std. Pkg.	Wt., Lbs.	Price Each
ZPS55302	302	YYP5	BRY5	15	255	\$5.90
ZPS77303	303	YYP7	BRY7	15	315	\$7.00

Type ZPX Condulets

Without Hub Plates



For types ZPD and ZPX Condulets. Take doublebranch cutouts, covers, round base switches or flush rectangular wiring devices.

Furnished with cast iron door, cutout fastening plate, and screws and bolts for cutout fastening plate.

2-wire or 3 to 2-wire, 30-ampere, 250-volt

Cat. No.	Form	Take Hub Plates	Take Housings	Std. Pkg.	Wt., Lbs.	Price Each
ZPX77302	302	YYP7	BRY7	15	450	\$9.20
ZPX77303	303	YYP7	BRY7	15	480	\$10.20

Covers

For Condulets of the ZP series. Cast iron, galvanized or enamel. For round base switches. Furnished with screws.



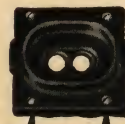
For Form 302 Bodies

Cat. No.	Form	Std. Pkg.	Wt., Lbs.	Price Each
ZP912	302	15	20	\$.50
*ZP913	303	15	25	\$.60
ZP713	303	15	45	.90

*Furnished with adapting ring.

Covers

For Condulets of the ZP series. Cast iron, galvanized or enamel. For double push switches. Furnished with screws.



For Form 302 Bodies

Cat. No.	Form	Std. Pkg.	Wt., Lbs.	Price Each
ZP812	302	15	25	\$.50
ZP813	303	15	30	\$.55



Type BRY Plug Receptacle Housings

For Condulet Bodies of the YW, YY,
and ZP Series, and ZF 55302

2-pole housings are furnished with 30-ampere, 250-volt receptacle BR302, which takes type BP 2-pole plugs. 3-pole housings are furnished with 30-ampere, 250-volt receptacle BR703, which takes type BP 3-pole plugs.

Galvanized or black enamel finish.

Plugs, see after type BRM.

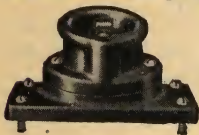
Any assortment of 25 black enameled galvanized type BRY plug receptacle housings will be considered a standard package.

Type BRY Plain Housings

30 Amperes, 250 Volts, A.C.

Can be used on D. C. circuits of the same rating if circuit is broken before plug is withdrawn.

Furnished with receptacle and screws.



Cat. No.	Size	No. of Poles	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
BRY5302	BRY5	2	15	40		\$3.50
BRY7302	BRY7	2	15	50		3.60
BRY7303	BRY7	3	15	55		4.50

Type BRY Threaded Housings

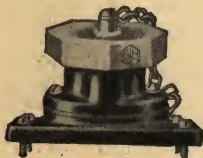
Furnished with receptacle, gasket, and screws.

Cat. No.	Size	No. of Poles	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
BRY57302	BRY5	2	15	40		\$3.70
BRY7302	BRY7	2	15	50		3.80
BRY77303	BRY7	3	15	55		4.75



Type BRY Threaded Housings—With Brass Cap

Furnished with receptacle, gasket, and screws.



Cat. No.	Size	No. of Poles	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
BRY58302	BRY5	2	15	55		\$4.65
BRY78302	BRY7	2	15	65		4.75
BRY78303	BRY7	3	15	70		6.10

Type BRY Spring Door Housings

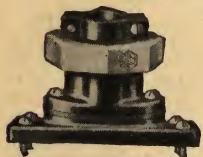
Furnished with receptacle and screws.

Cat. No.	Size	No. of Poles	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
BRY56302	BRY5	2	15	55		\$5.10
BRY76302	BRY7	2	15	65		5.20
BRY76303	BRY7	3	15	70		6.30



Type BRY Clamping Devices

For flexible conduit. Do not take plug or receptacle. Furnished with gasket and screws.



Cat. No.	Size	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
BRY791	BRY7	15	60		\$2.30
BRY792	BRY7	15	70		2.50
BRY793	BRY7	15	80		2.80

Type Z Condulets

Take round base wiring devices and main line cutouts.

Cat. No.	Size In.	No. of Wires	No. of Amps.	Cap. Pkg.	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
Z1302	1/2	2	30	15	100			\$2.55
Z2302	3/4	2	30	15	105			2.65
Z3302	1	2	30	10	75			2.75
Z1303	1/2	3	30	15	130			3.00
Z2303	3/4	3	30	15	135			3.10
Z3303	1	3	30	10	95			3.20



Type ZC Condulets

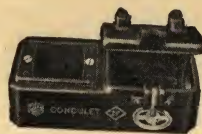
Wiring devices, pages 414 to 417, Condulet catalogue No. 2000.



Cat. No.	Size In.	No. of Wires	No. of Amps.	Cap. Pkg.	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
ZC1302	1/2	2	30	15	110			\$2.80
ZC2302	3/4	2	30	15	115			2.90
ZC3302	1	2	30	10	80			3.00
ZC1303	1/2	3	30	15	140			3.25
ZC2303	3/4	3	30	15	145			3.35
ZC3303	1	3	30	10	100			3.45

Type ZF Condulets—Single

Without Covers and Hub Plates



Take vaporproof gasketed switch covers, double push button switches, and main line fuse cutouts. Furnished with cast iron door, gaskets, cutout fastening plate, and screws and bolts for switches and cutout fastening plates. Take YYP5 hub plates at end of YY series, or BRY5 housings, at end of ZP series, and 30-ampere, 250-volt, 2-wire cutouts.

Standard package, 15. Weight, standard package, 195 pounds.

Price, No. ZF55302, 2-wireeach \$5.60

Type ZF Condulets—Two-gang

Without Covers and Hub Plates

Take vaporproof gasketed switch covers, double push button switches, and main line fuse cutouts. Cutouts, pages 436 and 437; switches, page 414, Condulet catalogue No. 2000. Take MF hub plates and 30-ampere, 250-volt, 3 or 4-wire cutouts.

Std. pkg., 15. Wt., 360 lbs.

Price, No. ZF304each \$8.50



MF Series Conduit Hub Plates

For ZF Series 2-gang Bodies

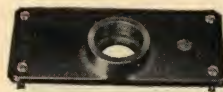
Cast iron, galvanized or enamel. Furnished with screws. Any assortment of 50 black enameled and galvanized hub plates of the MF series will be considered a standard package.

MF Series Conduit Hub Plates—With One Hub

For ZF Series 2-gang Bodies

Dimensions, 2 3/4 x 6 1/8 inches. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
MF1	1/2	15	35		\$.95
MF2	3/4	15	35		1.05
MF3	1	15	35		1.15
MF4	1 1/4	15	40		1.25
MF5	1 1/2	15	40		1.35



MF Series Conduit Hub Plates

With Two Hubs

For ZF Series 2-gang Bodies

Dimensions, 2 3/4 x 6 1/8 inches. Furnished with screws.

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
MF11	1/2	15	35		\$1.10
MF22	3/4	15	35		1.20
MF33	1	15	35		1.30
MF44	1 1/4	15	40		1.40
MF55	1 1/2	15	40		1.50

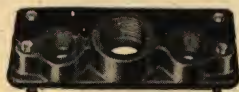


MF Series Conduit Hub Plates

With Three Hubs

For ZF Series 2-gang Bodies

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs.	Lbs. Std. Pkg.	Price Each
MF111	1/2-1/2-1/2	15	35		\$1.25
MF121	1/2-3/4-1/2	15	35		1.35
MF131	1/2-1-1/2	15	40		1.45
MF141	1/2-1 1/4-1/2	15	40		1.55
MF151	1/2-1 1/2-1/2	15	45		1.65



Blank Hub Plates and DS Covers

For ZF Series 2-gang Bodies

Standard package, 15. Weight, standard package, 35 pounds.

Price, No. MF00each \$.85
" " DS108 Cover " 1.75





Type ZG Series Condulets

Condulets of the ZG series take mill type snap switches with protective covers, and cartridge or plug fuse cutouts. They are particularly suited for the control of small motors and electrically driven machines.

Take Bryant-Perkins No. 2597 or General Electric No. 151394, three-pole snap switch with cast iron protective cover, and fuse cutouts.

25 assorted ZG series Condulets make a standard package.

Type ZG Condulets



Cast iron, with sheet steel door. Galvanized or enamel. Takes 3-wire, 600-volt main line cutouts.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
ZG23036	3/4	15	340	\$7.85
ZG33036	1	10	225	8.00
ZG43036	1 1/4	10	230	8.15

Type ZGC Condulets

Cutouts, pages 436, 437 and 439, Condulet, catalogue No. 2000. Galvanized or enamel. Takes 250 and 600-volt, 3-wire, main line cutouts.

Furnished with cutout fastening plate, screws and bolts.



250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
ZGC1303	1/2	15	155	\$3.60
ZGC2303	3/4	15	160	3.70
ZGC3303	1	10	110	3.80

600-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
ZGC213036	* 3/4-1/2	15	355	\$8.00
ZGC23036	3/4	15	350	8.00
ZGC33036	1	10	235	8.20
ZGC413036	*1 1/4-1/2	10	240	8.40

*Large hub is on cutout end of Condulet.

Types FH and FHF Condulets

Covers, see end of FS and G-H series with adjustable bars.

Type FH is for use with heating devices requiring more than 660 watts. Receptacle C337g, which can be used for a pilot lamp, is furnished with the Condulet. Type FHF is for use with heating devices requiring more than 660 watts; therefore provision is made for a cutout.

Type FH Condulets



For control of heating devices. Galvanized or enamel. Take round base wiring devices or covers, and flush rectangular wiring devices with surface style covers. Furnished with receptacle C337g, adjustable bar, and screws. Form 10 is also furnished with form 5 adapting ring.

Receptacle C337g, adjustable bar, and screws. Form 10 is also furnished with form 5 adapting ring.

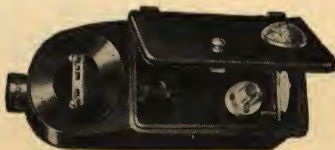
Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FH110	10	1 1/2	15	95	\$2.50
FH210	10	3/4	15	100	2.60

Type FHF Condulets

Round base wiring devices, pages 414 to 417; cutouts, page 436; flush rectangular wiring devices, page 412 to 414; pilot lamp receptacle, page 412, Condulet catalogue No. 2000.

Furnished with form 5 and form 10 adapting rings, adjustable bars, cutout fastening plate, pilot lamp receptacle, ruby jewel, screws, and bolts.

Cat. No.	Form	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FHF120	20	1 1/2	15	130	\$4.65
FHF220	20	3/4	15	140	4.75



Type MFC Condulets



Motor starting safety switch Condulets. Galvanized or enamel. Furnished with fusible knife switch and removable conduit hub plate, one at top and one at bottom.

The mechanism is so arranged that the switch cannot be thrown from the "off" to the "running" position. After it has been thrown to the "starting" position and the operator has released the handle, a spring automatically and quickly carries the switch to the "running" position. A padlock can be used to lock the switch in

either the "off" or the "running" position, or to lock the door.

If specified, a special gasketed door and gaskets for hub plates, will be furnished at an advance of \$2.50 in list price.

Take hub plates of the MF series with one and two hubs.

3-pole, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MFC2303	3/4	1	70	\$49.80
MFC3303	1	1	75	50.00
MFC4303	1 1/4	1	80	50.20

3-pole, 30-ampere, 500-volt, A. C.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MFC23035	3/4	1	80	52.95
MFC33035	1	1	85	53.15
MFC43035	1 1/4	1	90	53.35

Type MK Condulets

Without Hub Plates

Safety switch Condulets. Furnished with fusible knife switch.

Switch arranged for plug fuses.

30-ampere, 125-volt, for Plug Fuses

Cat. No.	No. Poles	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MK3028†	2	5	140	\$18.20
MK3038†	3	5	155	20.80

Switch Arranged for Cartridge Fuses

2-pole, 250-volt

Cat. No.	Capacity Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MK302†	30	5	140	\$18.20
MK602†	60	1	40	25.80
MK1002†	100	1	80	39.40
MK2002†	200	1	100	53.40

3-pole, 250-volt

Cat. No.	Capacity Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MK303†	30	5	155	20.80
MK603†	60	1	45	29.00
MK1003†	100	1	85	48.00
MK2003†	200	1	110	69.70

3-pole, 500-volt, A. C.

Cat. No.	Capacity Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MK3035†	30	1	65	35.00
MK6035†	60	1	70	35.00
MK10035†	100	1	100	51.60
MK20035†	200	1	130	75.20

†Take MF series hub plates, page 360, Condulet catalogue No. 2000.

†Take MK series hub plates listed below.

MK Series Conduit Hub Plates



Cast iron. Galvanized or enamel. Furnished with screws. Dimensions, 2 5/8 x 5 inches. For 30-ampere, 125 and 250-volt type MK Condulets.

With One Hub

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MK1	1 1/2	15	25	\$1.45
MK2	3/4	15	25	.55
MK3	1	15	30	.65
MK4	1 1/4	15	30	.75
MK5	1 1/2	15	35	.85

With Two Hubs

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MK11	1 1/2	15	25	.60
MK22	3/4	15	25	.70
MK33	1	15	30	.80
MK44	1 1/4	15	30	.90
MK55	1 1/2	15	35	1.00
MK00	Blank	15	20	.30





Type MKS Interlocking Safety Switch and Plug Receptacle Condulets

Without Hub Plates



Galvanized or black enamel finish.

Takes conduit hub plates and Type DP interlocking plugs. Furnished with fusible knife switch arranged for cartridge fuses and plug receptacle housing.

60-ampere, 250-volt					
Cat. No.	No. of poles	Takes Plugs	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MKS1662	2	DP162, DP362	1	55	\$43.00
MKS1663	3	DP163, DP363	1	60	47.20
100-ampere, 250-volt					
MKS16102	2	DP1102, DP3102	1	95	\$78.00
MKS16103	3	DP1103, DP3103	1	100	89.30
30-ampere, 500-volt, A.C.					
MKS16335	3	DP163, DP363	1	80	\$53.20
60-ampere, 500-volt					
MKS16635	3	DP163, DP363	1	80	\$53.20
100-ampere, 500-volt					
MKS161035	3	DP1103, DP3103	1	115	\$92.90

Type DP Interlocking Plugs



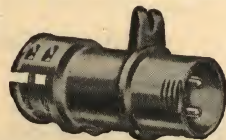
Aluminum handles, scratch brush finish. For use with Type MKS Condulets.

For round flexible cord or cable. Will also take small flexible conduit or armored conductor.

60-ampere, 250-volt and 30 or 60-ampere, 500-volt, A.C.					
Cat. No.	No. of Poles	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
*DP162	2	10	20	\$7.50	
*DP163	3	10	20	8.00	
100-ampere, 250-volt, and 500-volt, A.C.					
†DP1102	2	1	8	\$20.00	
†DP1103	3	1	8	22.00	

Aluminum handles, scratch brush finish. For use with Type MKS Condulets.

For flexible conduit or armored conductor. Will also take large round flexible cable.



60-ampere, 250-volt and 30 or 60-ampere, 500-volt, A.C.

Cat. No.	No. of Poles	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
‡DP362	2	10	20	\$7.50
‡DP363	3	10	20	8.00

100-ampere, 250-volt, and 500-volt A.C.

Cat. No.	No. of Poles	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
††DP3102	2	1	8	\$20.00
††DP3103	3	1	8	22.00

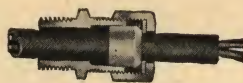
Outside diameter of cable, flexible conduit, or armored conductor:

* $\frac{3}{4}$ to $1\frac{1}{8}$ inches. † $1\frac{1}{8}$ to $1\frac{3}{8}$ inches.

‡ $\frac{5}{8}$ to $1\frac{1}{2}$ inches. †† $1\frac{1}{8}$ to $2\frac{1}{8}$ inches.

Hub plate, one-hub, page 360, Condulet catalogue No. 2000.

CG Series Connectors



Type CGB with Rubber Bushing (Sectional View)



Type CGK with Rubber Bushing (Sectional View)



Type CGD



Type CGB



Type CGK

Types CGB, CGD and CGE connectors have a male tapered thread for screwing into the hub of a Condulet. Types CGK, CGL, and CGM connectors have a female tapered thread for screwing on to rigid conduit. Connectors with a tapered rubber bushing are for use with round flexible cord or cable. Connectors with a tapered split lead sleeve are for use with flexible conduit and armored or other round cable.

Marine is the standard finish for connectors of the CG series and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished at the same price as marine finish, if specifically ordered.

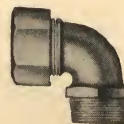
Connectors of the CG series are listed on pages 371 to 377, Condulet catalogue No. 2000.



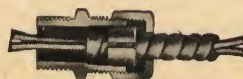
Type CGL



Type CGM



Type CGE



Type CGB with Split Head Sleeve (Sectional View)



Type CGK with Split Lead Sleeve (Sectional View)



YK Series Condulets

Take fusible knife switches. Furnished with switch fastening plate, screws, and bolts.

Removable switch fastening plate permits mounting the switch and making connections before it is installed.

Door is furnished with a spring catch.

Hubs are cast solid with the body and have an integral bushing and tapered thread.

Any assortment of 25 black enameled and galvanized Condulets of the YK series will be considered a standard package.



Type YK Condulets

Galvanized or enamel.

Take fusible knife switches.

Furnished with switch fastening plate, screws and bolts.

Hubs cast solid with body.

2-pole, 30-ampere, 250-volt Sheet Steel Door

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YK1302	1/2	10	130	\$4.00
YK2302	3/4	10	135	4.10
YK3302	1	10	140	4.20

3-pole, 30-ampere, 250-volt Sheet Steel Door

YK2303	3/4	10	185	\$6.30
YK3303	1	10	190	6.40
YK4303	1 1/4	10	195	6.50

2-pole, 60-ampere, 250-volt Cast Iron Door

YK2602	3/4	10	230	\$11.40
YK3602	1	10	235	11.50
YK4602	1 1/4	10	240	11.60

3-pole, 60-ampere, 250-volt Cast Iron Door

YK3603	1	10	265	\$12.40
YK4603	1 1/4	10	270	12.50
YK5603	1 1/2	10	275	12.60

Type YKC Condulets

Galvanized or enamel.

Take fusible knife switches.

Furnished with switch fastening plate, screws and bolts.

Hubs cast solid with body.



2-pole, 30-ampere, 250-volt Sheet Steel Door

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YKC1302	1/2	10	140	\$4.15
YKC2302	3/4	10	145	4.30
YKC3302	1	10	150	4.45

3-pole, 30-ampere, 250-volt Sheet Steel Door

YKC2303	3/4	10	195	\$6.50
YKC3303	1	10	200	6.65
YKC4303	1 1/4	10	205	6.80

2-pole, 60-ampere, 250-volt Cast Iron Door

YKC2602	3/4	10	240	\$11.60
YKC3602	1	10	245	11.75
YKC4602	1 1/4	10	250	11.90

3-pole, 60-ampere, 250-volt Cast Iron Door

YKC3603	1	10	275	\$12.65
YKC4603	1 1/4	10	280	12.80
YKC5603	1 1/2	10	285	12.95

Type YKK Knife Switches

For Condulets of the YK and YKW series. Arranged for 250-volt N. E. C. cartridge fuses.



Cat. No.	Capacity Amps.	No. of Poles	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YKK302	30	2	10	40	\$2.25
YKK602	60	2	10	65	3.50
YKK303	30	3	10	50	3.75
YKK603	60	3	10	110	5.25

Type YKW Condulets



Watertight, galvanized or enamel. Take fusible knife switches. Furnished with gasketed cast iron door, switch fastening plate, screws and bolts. Hub cast solid with body.

Any assortment of 25 black enameled and galvanized Condulets of the YKW series will be considered a standard package.

2-pole, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YKW1302	1/2	10	160	\$9.60
YKW2302	3/4	10	165	9.70
YKW3302	1	10	170	9.80
YKW4302	1 1/4	10	175	9.90
YKW5302	1 1/2	10	180	10.00

3-pole, 30-ampere, 250-volt

YKW2303	3/4	10	215	\$10.60
YKW3303	1	10	220	10.70
YKW4303	1 1/4	10	225	10.80
YKW5303	1 1/2	10	230	10.90

2-pole, 60-ampere, 250-volt

YKW2602	3/4	10	230	\$12.50
YKW3602	1	10	235	12.60
YKW4602	1 1/4	10	240	12.70
YKW5602	1 1/2	10	245	12.80

3-pole, 60-ampere, 250-volt

YKW3603	1	10	265	\$14.60
YKW4603	1 1/4	10	270	14.70
YKW5603	1 1/2	10	275	14.80
YKW6603	2	10	280	14.90

Type YKWC Condulets

Watertight, galvanized or enamel. Take fusible knife switches. Furnished with gasketed cast iron door, switch fastening plate, screws and bolts. Hubs cast solid with body.

Any assortment of 25 black enameled and galvanized Condulets of the YKW series will be considered a standard package.



2-pole, 30-ampere, 250-volt

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YKWC1302	1/2	10	170	\$9.75
YKWC2302	3/4	10	175	9.90
YKWC3302	1	10	180	10.05
YKWC4302	1 1/4	10	185	10.20
YKWC5302	1 1/2	10	190	10.35

3-pole, 30-ampere, 250-volt

YKWC2303	3/4	10	225	\$10.80
YKWC3303	1	10	230	10.95
YKWC4303	1 1/4	10	235	11.10
YKWC5303	1 1/2	10	240	11.25

2-pole, 60-ampere, 250-volt

YKWC2602	3/4	10	240	\$12.70
YKWC3602	1	10	245	12.85
YKWC4602	1 1/4	10	255	13.00
YKWC5602	1 1/2	10	265	13.15

3-pole, 60-ampere, 250-volt

YKWC3603	1	10	275	\$14.85
YKWC4603	1 1/4	10	280	15.00
YKWC5603	1 1/2	10	285	15.15
YKWC6603	2	10	290	15.30



Types PJCA and PJX Condulets



Type PJCA

Furnished with cast iron cover, gasket, and screws.

Any assortment of 50 black enameled and galvanized Condulets of the PJ series will be considered a standard package.

Cat. No.	Size In.	Std. Pkg.	Type PJX		Price Each
			Wt., Lbs.	Std. Pkg.	
PJCA1	1 1/2	15	90		\$3.00
PJCA21	3/4 - 1/2 - 3/4	15	95		3.10
PJCA3	1	15	105		3.45
PJCA41	1 1/4 - 1/2 - 1 1/4	15	105		3.70

Cat. No.	Size, Inches				Std. Pkg.	Wt., Lbs.	Price Each
	A	B	C	D			
PJX1	1 1/2	1 1/2	1 1/2	1 1/2	15	100	\$3.20
PJX2	3/4	3/4	3/4	3/4	15	110	3.40
PJX42	1 1/4	1 1/4	3/4	3/4	15	120	3.90



Type PKC Condulets

Galvanized or enamel. Inside dimensions: length, 10 in.; width, 3 1/2 in.; depth, 3 5/8 inches.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
PKC5	1 1/2	15	120	\$5.75
PKC6	2	15	125	6.00

Type PKCA Condulets

Galvanized or enamel. Inside dimensions: length, 10 inches; width, 3 1/2 inches; depth, 3 5/8 inches. Made in 1 1/2 inch only.

Standard package, 15. Weight, standard package, 130 pounds.

Price, No. PKCA5.....each \$6.00



Type AD Junction Box Condulets



Plain Cover

take at least five threads in sizes of conduit up to and including two-inch.

With Plain Cover

Cat. No.	Std. Pkg.	Wt., Lbs.	Price Each
AD1	10	230	\$8.20

With Floor Cover

Cat. No.	Std. Pkg.	Wt., Lbs.	Price Each
AD2	10	250	\$8.50

Prices for Drilling and Tapping Holes

When specified on order, these Condulets will be furnished with holes drilled and tapped according to specification, which in every case should be very clear and accompanied by a diagram showing location and size of holes.

Conduit size.....inches	1/2 or 3/4	1 or 1 1/4	1 1/2 or 2
Price.....per hole	\$.35	.50	.85



Floor Cover

RS Series Condulets



Galvanized or enamel. Furnished with cast iron cover, gasket, and screws. The use of these Condulets provides an easy method of tapping a conduit system, where a Condulet body of this series has been installed in the line, by removing the blank plates, substituting plates with the desired sizes of hubs. Cover, hub plates, and blank side plates are gasketed, making the Condulet watertight.

Cat. No.	Type	Inside Dimen. Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RS 1	RS	8 1/2 x 8 1/2 x 4	10	190	\$6.00
RSM 1	RSM	8 1/2 x 4 1/2 x 4	10	120	4.25
RSS 1	RSS	4 1/2 x 4 1/2 x 4	10	105	3.75

Conduit Hub Plates

Cast iron, galvanized or enamel. For Condulet bodies of the RS series. Furnished with gaskets and screws. May be assorted to make a standard package, regardless of style of plates.



RSP Series, for 8 1/2 x 4-inch Sides of Types RS and RSM Condulet Bodies

With One Hub									
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each	Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
RSP1	1/2	40	120	\$1.85	RSP5	1 1/2	40	140	\$2.05
RSP2	3/4	40	125	1.90	RSP6	2	40	145	2.10
RSP3	1	40	130	1.95	RSP7	2 1/2	40	150	2.25
RSP4	1 1/4	40	135	2.00	RSP8	3	40	165	2.50

With Two Hubs									
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each	Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
RSP11	1/2	40	125	1.95	RSP54	1 1/2 - 1 1/4	40	165	2.40
RSP22	3/4	40	130	2.05	RSP55	1 1/2	40	170	2.40
RSP31	1 - 1/2	40	135	2.15	RSP62	2 - 3/4	40	175	2.60
RSP33	1	40	140	2.15	RSP63	2 - 1	40	175	2.60
RSP42	1 1/4 - 3/4	40	145	2.25	RSP64	2 - 1 1/4	40	180	2.60
RSP44	1 1/4	40	150	2.25	RSP65	2 - 1 1/2	40	180	2.60
RSP52	1 1/2 - 3/4	40	155	2.40	RSP66	2	40	190	2.60
RSP53	1 1/2 - 1	40	160	2.40	RSP73	2 1/2 - 1	40	190	2.80

With Three Hubs									
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each	Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
RSP111	1/2	40	145	2.05	RSP442	1 1/2 - 1 1/4 - 3/4	40	160	2.50
RSP222	3/4	40	150	2.20	RSP444	1 1/4	40	160	2.50
RSP331	1 - 1 - 1/2	40	155	2.35	RSP553	1 1/2 - 1 1/4 - 1	40	180	2.75
RSP333	1	40	155	2.35	RSP555	1 1/2	40	185	2.75

RSMP Series, for 4 1/2 x 4-inch Sides of Types RSM and RSS Condulet Bodies

With One Hub									
Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each	Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
RSMP1	1/2	40	60	\$1.25	RSMP5	1 1/2	40	80	\$1.45
RSMP2	3/4	40	65	1.30	RSMP6	2	40	85	1.50
RSMP3	1	40	70	1.35	RSMP7	2 1/2	40	90	1.65
RSMP4	1 1/4	40	75	1.40					



Cast Iron Blank Side Plates and Covers

RSMP series, for types RSM and RSS Condulet bodies.

Side Plates

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
RSP0	8 1/2 x 4	40	140	\$1.80
RSP0	4 1/2 x 4	40	70	1.20

Cast Covers with Gaskets

Cat. No.	For Bodies	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
RS00	RS	10	70	\$2.00
RSM00	RSM	10	45	1.25
RSS00	RSS	10	30	.90



Type FFM Condulets For Mine Signaling Systems

The importance of the signal system in a mine can hardly be overestimated, for upon it largely depends the output and often the lives of the miners. The conditions are so severe, and reliability so essential that only the best construction should be considered.

A type FFM Condulet is a distributing center for mine signal circuits. It is of substantial watertight construction and is provided with a receptacle so that a lamp can be used to heat the interior, thus preventing the collection of moisture within the Condulet due to condensation. Openings are provided for lead covered conductors. The conductors are held in place by wooden wedges and the opening made watertight by use of a suitable compound.

Galvanized or black enamel finish.

Furnished with Connection Block and Lamp Receptacle



Cat. No.	Style	Std. Pkg.	Wt., Lbs. Std. Pkg.
FFM53	3-wire	5	160
FFM56	6 "	5	190

Connection Blocks Only For FFM53 and FFM56

FFM3	3-wire	5	55
FFM6	6 "	5	70

Prices on application.

Type FFM Condulets Furnished with Connection Block

Takes Benjamin Marine Buzzer No. 8299A and Ward-Leonard Resistance.

Cat. No.	Style	Std. Pkg.	Wt., Lbs. Std. Pkg.
FFM41	3-wire	5	175

Connection Block Only For FFM41

3-wire with fuse terminals and resistance clips.

FFM1	3-wire	5	60
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Prices on application.



Type AF Condulets

Mine signal switch. Galvanized or black enamel finish.

Type AF is a single-pole, double make, mine signal, pull switch. The normal position is open; therefore, operating the switch closes the circuit.

All insulating parts are of high grade material.

The spring is packed in grease and will support a weight of 15 pounds without operating the switch.

The switch is enclosed in a rugged watershedding housing and is fastened to it by four cap screws.

The wires enter through clearance holes in the flange on the switch mechanism.

Switch is single-pole; capacity, two-amperes, 250-volts.

Standard package, 10. Weight, standard package, 130 pounds.

Price, No. AF1.....each \$10.00

Type UNJ Condulets

Condulet fixture joint for pendent fixtures. Always hang plumb.

Any assortment of 100 black enameled and galvanized type UNJ Condulet fixture joints will be considered a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UNJ1308	* 1/2 - 3/8	50	40	\$.65
UNJ1	1/2 - 1/2	50	40	.65
UNJ2308	* 3/4 - 3/8	50	55	.75
UNJ21	* 3/4 - 1/2	50	55	.75
UNJ2	3/4 - 3/4	50	60	.75
UNJ3308	*1 - 3/8	25	40	.90
UNJ31	*1 - 1/2	25	40	.90
UNJ32	*1 - 3/4	25	40	1.00
UNJ3	1 - 1	25	40	1.00

*Male threads given first.



UG Series Condulets

Single receptacle battery charging Condulets, galvanized or black enamel finish.

Especially for storage battery charging outlets in railroad terminals and coach yards.

Furnished with 2-pole round receptacle, spring door, and gaskets. Round receptacle No. BRA100 is rated at 100 amperes, 125 volts, and takes plugs No. BPA100 or BPFA100.



Type UGEL Condulets

Single receptacle battery charging Condulets. Black enamel finish.

With round receptacle No. BRA100 and base plate.

Standard package, 5. Wt., std. pkg., 170 pounds.

Price, No. UGEL 1020. each \$27.25

Type UGEL Condulets Surface Style

Galvanized or enamel. For two conduits. With round receptacle No. BRA100.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UGEL422	1 1/4	5	230	\$31.50
UGEL522	1 1/2	5	240	31.90
UGEL622	2	5	250	32.30



Type UGEL Condulets

Underground Style

Single receptacle battery charging Condulets. Galvanized or enamel. With round receptacle No. BRA100.

For two conduits.

Furnished with hub plate and hub cover for 2-inch conduit stem. Conduit stem not furnished.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UGEL4226	1 1/4	5	355	\$39.25
UGEL5226	1 1/2	5	365	39.65
UGEL6226	2	5	375	40.05



Type UGEM Condulets

Double receptacle battery charging Condulets. Galvanized or enamel.

With round receptacle No. BRA100 and base plate.

Standard package, 5. Wt. std. pkg., 205 pounds.

Price, No. UGEM1020. each \$39.25



Types UGCF and UGXF Condulets

Double receptacle battery charging Condulets. Galvanized or black enamel finish.

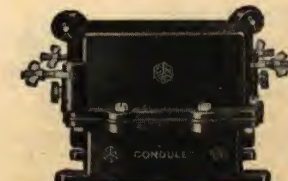
With round receptacle No. BRA100.

Type UGCF, Surface Style For Two Conduits

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UGCF42	1 1/4	5	305	\$40.50
UGCF52	1 1/2	5	315	40.90
UGCF62	2	5	325	41.30

Type UGXF, Surface Style For Four Conduits

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
UGXF42	1 1/4	5	315	40.70
UGXF52	1 1/2	5	325	41.10
UGXF62	2	5	335	41.50





Type UGCD Condulets

Underground Style

Galvanized or enamel. Double receptacle battery charging Condulets. Furnished with hub plate and hub cover for 2-inch conduit stem. Conduit stem not furnished.

For two conduits.

With round receptacle No. BRA100.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
UGCD42	1 1/4	5	405	\$47.50
UGCD52	1 1/2	5	415	47.90
UGCD62	2	5	425	48.30

Type BRHE Condulet

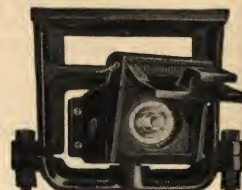
Furnished with improved M. C. B. bracket and 2-pole, 100-ampere, 125-volt round receptacle No. BRA100. Std. pkg., 10. Weight, std. pkg., 260 pounds. Price, No. BRHE102 each \$22.50

Type BRHA Condulets

Furnished with improved M. C. B. bracket and 2-pole receptacle.

Cat. No.	Std. Pkg.	Wt., Lbs.	Price Each
*BRHA101	10	240	\$17.50
†BRHA102	10	250	20.25

*Rectangular receptacle.
†Round receptacle.



Type UGEN Condulets

Single receptacle battery charging Condulets. With 2-pole rectangular or round receptacle, spring door and gasket. 200 amp. 65-volt receptacle No. BR200 takes plugs BPD200 or BPF200, and may be substituted at an advance of \$1.25.



With Rectangular Receptacle No. BR100

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
UGEN5101	1 1/2	5	145	\$18.75
UGEN6101	2	5	155	19.00

With Round Receptacle No. BRA100

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
UGEN4102	1 1/4	5	145	21.25
UGEN5102	1 1/2	5	150	21.50

Type BPF Plugs

With aluminum handle. For battery charging Condulets of the UG series. Two-pole, rectangular for receptacles Nos. BR100 or BR200.

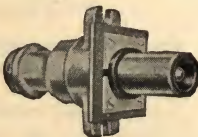


Cat. No.	Volts	Capacity Amperes	Std. Pkg.	Wt., Lbs.	Price Each
BPF 100	80	100	10	50	\$12.00
BPF200	65	200	10	60	13.00

Type BPGA Plugs

Aluminum handle. For Condulets of the UG series. Two-pole, for round receptacle No. BRA100. A spanner wrench furnished free with every shipment of plugs. If ordered separately or additionally, 35 cents.

Capacity: 100-ampere, 125-volt. Standard package, 10. Weight, standard package, 60 pounds. Price, No. BPGA100.....each \$9.50



BRH Series Condulets

Galvanized or enamel. For storage battery charging outlets, particularly on railroad cars and electric vehicles.

They are made for flexible cable and for conduit. They are furnished with rectangular or round receptacles, which are interchangeable in all the Condulets of the BRH series except BRHE, which takes the round receptacle only. Receptacles and plugs are polarized. The round receptacle and plug have been designed to eliminate the defects existing in similar receptacles and plugs.

Furnished with 2-pole rectangular or round receptacle and spring door. Rectangular receptacle BR100 is rated at 100 amperes, 80 volts, and takes plug BP100. Round receptacle BRA100 is rated at 100 amperes, 125 volts, and takes plug BPA100. Rectangular receptacle BR200 is rated at 200 amperes, 65 volts, and takes plug BPD200.

Type BRHS Condulets

Furnished with swivel pedestal and 2-pole receptacle.

Cat. No.	Std. Pkg.	Wt., Lbs.	Price Each
*BRHS101	10	180	\$14.75
†BRHS102	10	190	17.50

*Rectangular receptacle. †Round receptacle.

Type BRH Condulets

Housing for M. C. B. bracket. With 2-pole receptacle.

Cat. No.	Std. Pkg.	Wt., Lbs.	Price Each
*BRH101	10	130	\$12.50
†BRH102	10	140	15.25

*Rectangular receptacle. †Round receptacle.

Type BP and BPD Plugs



With aluminum handle. For battery charging Condulets of BRH and UG series. Two-pole, rectangular, for receptacle No. BR100.

Standard package, 10. Weight, standard package, No. BP100, 55 pounds; No. BPD, 60 pounds. Price, No. BP100, 100-ampere, 80-volt.....each \$11.00
" " BPD200, 200 " 65-volt..... " 12.00

Type BPA Plugs

With aluminum handle. For battery charging Condulets of BRH and UG series. Two-pole, round, for receptacle No. BRA100.

Capacity, 100-ampere, 125-volt. Standard package, 10. Weight, standard package, 50 pounds.

Price, No. BPA100.....each \$8.50



Type DAC Condulets

Galvanized or enamel. For mail car and industrial lighting installations. Furnished with lamp receptacle, 2 1/4-inch reflector holder, steel reflector and lead wires. The reflectors supplied are Ivanhoe-Regent No. 18440, No. 18441, No. 18460, No. 18461 or No. 18470.

If specified, No. PE55 lamp receptacle with lamp grip will be furnished at a slight advance.

When ordering for installation in mail cars, data must be given concerning location of Condulet in car, wattage of lamp, style of bulb, distance from floor to ceiling, finish of reflector and curvature of ceiling.

For body and canopy only, deduct \$9.00.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs.	Price Each
DAC1	1 1/2	5	95	\$16.75
DAC2	3/4	5	100	17.00
DAC3	1	5	105	17.25





LHS and LHR Series Condulets

6 Amperes, 125 Volts; 24 Amperes, 32 Volts

For controlling locomotive headlights. Galvanized or black enamel finish.

Locomotive headlight switch Condulets of the LHR and LHS series are furnished with switches of substantial construction which have three positions: "Off," "Dim," and "Bright." Condulets of the LHR series are furnished with a dimming resistance mounted on the Condulet. Condulets of the LHS series are used with a separate resistance.

The cover is gasketed, making it dust proof. The body is very shallow, not exceeding two inches in depth. All parts are removable from the Condulet without disturbing the body or disconnecting any of the conduit.

Any assortment of 25 black enameled and galvanized Condulet bodies of the LHS series will be considered a standard package. The same is true of an assortment of 25 bodies of the LHR series.



Type LHSA Condulets

6 Amps., 125 Volts; 24 Amps., 32 Volts

For controlling locomotive headlights. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LHSA1	1/2	10	60	\$6.50
LHSA2	3/4	10	65	6.60
LHSA3	1	10	70	6.70

Type LHSP Condulets

6 Amps., 125 Volts; 24 Amps., 32 Volts

For controlling locomotive headlights. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LHSP1	1/2	10	60	\$6.50
LHSP2	3/4	10	65	6.60
LHSP3	1	10	70	6.70



Type LHSJ Condulets

6 Amps., 125 Volts; 24 Amps., 32 Volts

For controlling locomotive headlights. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LHSJ1	1/2	10	65	\$6.60
LHSJ2	3/4	10	70	6.70
LHSJ3	1	10	75	6.80

Type LHRA Condulets

6 Amps., 125 Volts; 24 Amps., 32 Volts

For controlling locomotive headlights. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LHRA1	1/2	10	100	\$11.00
LHRA2	3/4	10	105	11.10
LHRA3	1	10	110	11.20



Type LHRP Condulets

6 Amps., 125 Volts; 24 Amps., 32 Volts

For controlling locomotive headlights. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LHRP1	1/2	10	100	\$11.00
LHRP2	3/4	10	105	11.10
LHRP3	1	10	110	11.20



Type LHRJ Condulets

6 Amps., 125 Volts; 24 Amps., 32 Volts

For controlling locomotive headlights. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LHRJ1	1/2	10	105	\$11.10
LHRJ2	3/4	10	110	11.20
LHRJ3	1	10	115	11.30



Type QEEM Condulets

For use on locomotives, either on the front of the cab for making the connections between the cab and handrail or conduit, or on the end of sill for making connections between the locomotive and tender.

The two parts of the connector are polarized by eye bolts which clamp in their respective lugs so that after the connections are once made, it is impossible to incorrectly reconnect the two parts.

Four-pole, 30-ampere, 250-volt; will take either rigid or flexible conduit in the 3/4-inch size. Galvanized or enamel. Furnished with gaskets and screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEEM2204	3/4	10	125	\$13.70

Type QEGM Condulets

For use on locomotive, either on the front of the cab for making the connections between the cab and handrail or conduit, or on the end of sill for making connections between the locomotive and tender.

Provided with a back hub which permits the conduit to pass through the wall of the cab directly into the Condulet.

Four-pole, 30-ampere, 250-volt; will take either rigid or flexible conduit in the 3/4-inch size. Galvanized or enamel. Furnished with gaskets and screws.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
QEGM2204	3/4	10	140	\$14.10

Type MD Condulets

Connector Condulets, galvanized or enamel. Three-pole 200 ampere, 250-volt. Furnished with No. MD03 plug.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MD3	1	10	220	\$25.50
MD4	1 1/4	10	230	25.75
MD5	1 1/2	10	240	26.00



Type MDA Condulets

Connector Condulets, galvanized or enamel. Furnished with connection block, wire hole cover, removable sliding cover, and screws. Three-pole, 100-ampere, 125-volt.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MDA438	1 1/4	10	125	\$8.15
MDA538	1 1/2	10	130	8.35



MDA Attachment

for Type MDA Condulets

This attachment provides for the use of flexible conduit with the type MDA Condulets. For three-pole receptacle. Size of flexible conduit, 1 1/4 inches.

Standard package, 10. Weight, standard package, 50 pounds. Price, No. MDA39.....each \$1.50



Type MDH Condulets

Locomotive handrail Condulets, galvanized or enamel. Furnished with gasket, screws, and bolts. Four-pole, 30-ampere, 250-volt.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
MDH2304	3/4	10	110	\$11.75
MDH3304	1	10	115	12.00





JRY-KRY Series Condulet Bodies

For Side Wall or Car Vestibule Fixtures

Take connection block CF101 and fixtures.

Wiring devices, page 421, Condulet catalogue No. 2000.

Any assortment of 75 black enameled and galvanized Condulet bodies of the JRY-KRY series will be considered a standard package.

Type JRY Condulet Bodies

For Side Wall or Car Vestibule Fixtures

Galvanized or enamel. Take connection block No. CF101 and fixtures.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JRY1	1/2	50	75	\$.70
JRY2	3/4	25	40	.80
JRY3	1	25	45	.90

Type JRYA Condulet Bodies

For Side Wall or Car Vestibule Fixtures

Galvanized or enamel. Take connection block No. CF101 and fixtures.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JRYA1	1/2	50	80	\$.85
JRYA2	3/4	25	45	.95
JRYA3	1	25	50	1.05



Type KRY Condulet Bodies

For Side Wall or Car Vestibule Fixtures

Galvanized or enamel. Take connection block No. CF101 and fixtures.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
KRY1	1/2	50	70	\$.65
KRY2	3/4	25	35	.75
KRY3	1	25	40	.85

Type KRYA Condulet Bodies

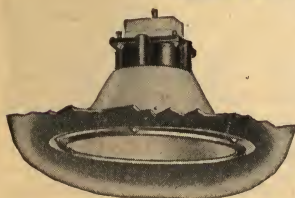
For Side Wall or Car Vestibule Fixtures

Galvanized or enamel. Take connection block No. CF101 and fixtures.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
KRYA1	1/2	50	70	\$.65
KRYA2	3/4	25	35	.75
KRYA3	1	25	40	.85



Type SRH Fixtures



Consists of holder SRH3 reflector SH25, receptacle, C227, and Bezl. Galvanized or enamel. Furnished with screws.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SRH357	50	140	\$3.50

Type SRH Holder

Galvanized or black enamel finish.

Furnished with screws.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SRH3	50	60	\$.75



Type C Receptacle

Furnished with screws.



Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
C227	200	120	\$.25

CL, LP and LO Series Condulet Bodies

CL, LP, and LO series are for ceiling outlets. Take covers, fixtures, attachments, plug receptacle housings or wiring devices. Are suitable for baggage car and general industrial installations.

Condulet bodies of the CL series are provided with a flange in which holes for the mounting screws are drilled. Condulet bodies of the LP series are held in place by pipe straps either around the hubs or around the conduit close to the Condulet body. Condulet bodies of the LO series are provided with four lugs or ears in which holes for the mounting screws are drilled. Any assortment of 100 black enameled and galvanized Condulet bodies of CL, LP, or LO series make a standard package.

The CL, LO, and LP series consist of types other than those listed. Wiring devices: CL series, page 411; LO and LP series, page 421, Condulet catalogue No. 2000.

Type CL Condulet Bodies

Galvanized or enamel. For ceiling outlets. Take covers, fixtures, attachments, housings, or wiring devices.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CL1	1/2	50	185	\$1.60
CL2	3/4	25	100	1.70
CL3	1	25	110	1.80

Type CLC Condulet Bodies

Galvanized or enamel. For ceiling outlets. Take covers, fixtures, attachments, housings, or wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
CLC1	1/2	50	190	\$1.70
CLC2	3/4	25	105	1.80
CLC3	1	25	115	1.90



Type LP Condulet Bodies

Galvanized or enamel. For ceiling outlets. Take covers, fixtures, attachments, housings, or wiring devices.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LP1	1/2	50	100	\$1.15
LP2	3/4	25	55	1.25
LP3	1	25	60	1.35

Type LPC Condulet Bodies

Galvanized or enamel. For ceiling outlets. Take covers, fixtures, attachments, housings, or wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LPC1	1/2	50	110	\$1.25
LPC2	3/4	25	60	1.35
LPC3	1	25	65	1.45



Type LO Condulet Bodies

Galvanized or enamel. For ceiling outlets. Take covers, fixtures, attachments, housings, or wiring devices.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LO1	1/2	50	105	\$1.15
LO2	3/4	25	60	1.25
LO3	1	25	65	1.35

Type LOC Condulet Bodies

Galvanized or enamel. For ceiling outlets. Take covers, fixtures, attachments, housings, or wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LOC1	1/2	50	110	\$1.25
LOC2	3/4	25	65	1.35
LOC3	1	25	70	1.45





Type BLMC Condulet Bodies

For deck sill outlets. Galvanized or enamel. Take covers, fixtures, attachments, plug receptacle housings, or wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BLMC1	1/2	50	150	\$1.45
BLMC2	3/4	25	90	1.60
BLMC3	1	25	100	1.75

DSO and DSP Series Condulet Bodies

For deck sill and side wall outlets.

Furnished with cover and screws.

DSP series also furnished with cover gasket.

Plug receptacle housings for BLM, DSO, DSP, JRM, JRR, series page 251, Condulet catalogue No. 2000.

Any assortment of 100 black enameled and galvanized Condulet bodies of the DSO series, or any assortment of 100 of the DSP series will be considered a standard package.

Type DSOC Condulet Bodies

Wiring devices, page 411, Condulet catalogue No. 2000. Take fixtures, attachments or wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
DSOC1	1/2	50	190	\$2.30
DSOC2	3/4	25	115	2.50
DSOC3	1	25	120	2.70



Type DSPC Condulet Bodies

For deck sill and side wall outlets. Take fixtures, attachments or wiring devices. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
DSPC1	1/2	50	190	\$2.45
DSPC2	3/4	25	115	2.65
DSPC3	1	25	120	2.85



Type JRR Condulets

With Hood for Horizontal Conduit

For side wall fixtures. Take fixtures, attachments or wiring devices. 100 assorted make a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JRR14	1/2	50	210	\$1.90
JRR24	3/4	25	135	2.00
JRR34	1	25	140	2.15



Type JRR Condulets

With Hood for Vertical Conduit

For side wall fixtures. Take fixtures, attachments or wiring devices. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JRR15	1/2	50	210	\$1.90
JRR25	3/4	25	135	2.00
JRR35	1	25	140	2.15



Type JRM Condulets

With Hood for Horizontal Conduit

Wiring devices, page 421 Condulet catalogue No. 2000. Take fixtures, attachments or wiring devices.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JRM14	1/2	50	315	\$3.10
JRM24	3/4	25	185	3.30
JRM34	1	25	200	3.50



Type JRM Condulets

With Hood for Vertical Conduit

For side wall fixtures. Take fixtures, attachments or wiring devices. Galvanized or enamel.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
JRM15	1/2	50	315	\$3.10
JRM25	3/4	25	185	3.30
JRM35	1	25	200	3.50



Type SOC Condulets

With Hood—For Horizontal Conduit

For side wall fixtures. Take fixtures, attachments, or wiring devices. 100 assorted make a standard package.

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SOC14	1/2	50	240	\$3.20
SOC24	3/4	25	120	3.50
SOC34	1	25	125	3.70

Type SOC Condulets

With Hood—For Vertical Conduit

Plug receptacle housings for SO series and type MOC, page 251, Condulet Catalogue No. 2000. Other wiring devices, pages 431 and 432.

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SOC15	1/2	50	245	\$3.20
SOC25	3/4	25	125	3.50
SOC35	1	25	130	3.70



Type MOC Condulets

With Hood—For 3/4-inch Horizontal Conduit

For deck sill outlets. Take fixtures, attachments or wiring devices. Galvanized or black enamel finish.

Standard package, 25.

Weight, standard package, 95 pounds.

Price, No. MOC24.....each \$3.60

Holders

Bronze, 2 1/4-inch. Take reflectors or shades, furnished with receptacle No. PE57. For Condulets of the BLM, CL, DSO, DSP, JRM, JRR, LO, LP, and SO series and type MOC. Distance of top reflector above center contact of lamp, 3/4 inch.

Standard package, 25. Weight, standard package, 60 pounds.

Price, No. CRSE1.....each \$6.00



Holders

Iron, galvanized or enamel. Takes Condulet receptacle No. C337 and reflector No. SH25. For Condulets of the BLM, CL, DSO, DSP, JRM, JRR, LO, LP, and SO series and type MOC.

Standard package, 50.

Weight, standard package, 45 pounds.

Price, No. SRH2.....each \$5.00



Deep Type Holders

Iron, galvanized or enamel. Takes Condulet receptacle No. C337 and reflector No. SH25. For Condulets of the BLM, CL, DSO, DSP, JRM, JRR, LO, LP, and SO series and type MOC.

Standard package, 50.

Weight, standard package, 75 pounds.

Price, No. SRH4.....each \$8.50



Composition Connection Blocks

Furnished with screws. For Condulets of CL, DSO, DSP, JRM, JRR, JRY, LO, LP and SO series and type MOC.

Standard package, 50.

Weight, standard package, 15 pounds.

Price, No. CF101.....each \$5.00

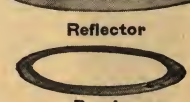


Reflectors and Bezels

Reflector for holders Nos. SRH2, SRH3, and SRH4.

Bezel for reflectors Nos. SH3, SH6, and SH25.

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
SH25	Reflector, pore. enam.	50	55	\$1.50
BEZ1	Bezel, brass	50	20	1.00





Type LEF Condulets



With Front Opening Only

Tender lamp Condulets. Galvanized or enamel. Furnished with clear Spreadlite lens, externally operated red screen, externally operated switch, Bryant lamp receptacle No. 4131 with lamp grip, and gaskets.

Take any medium screw base lamp in S17, G18½ or P19 bulb.

Any assortment of 25 black enameled and galvanized Condulets of the LE series will be considered a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LEF12	1½	10	275	\$16.80
LEF22	¾	10	280	16.90

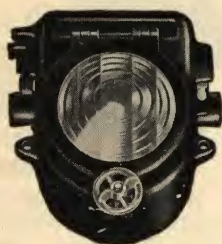
Type LEJ Condulets

With Front Opening Only

Tender lamp Condulets. Galvanized or enamel. Furnished with clear Spreadlite lens, externally operated red screen, externally operated switch, Bryant lamp receptacle No. 4131 with lamp grip, and gaskets.

Take any medium screw base lamp in S17, G18½ or P19 bulb.

Any assortment of 25 black enameled and galvanized Condulets of the LE series will be considered a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LEJ12	1½	10	280	\$16.90
LEJ22	¾	10	285	17.00

Type LD Condulets

With Front Opening Only

Tender lamp Condulets. Galvanized or enamel. Furnished with clear Spreadlite lens, Bryant lamp receptacle No. 4131 with lamp grip, and gaskets. Can be furnished with an externally operated switch at \$2.00 additional.

Take any medium screw base lamp in S17, G18½ or P19 bulb.

Any assortment of 25 black enameled and galvanized type LD Condulets will be considered a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LD12	1½	10	150	\$7.30
LD22	¾	10	155	7.40

Type LGSA Condulets

Gauge lamp Condulets. Galvanized or enamel. Take incandescent lamps with S-14, S17, G18½ or P19 bulb. Furnished with Benjamin receptacle No. 4202 with lamp grip. For flexible armored cord.

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LGSA0	Cast Iron	10	65	\$5.00
LGSA00	Aluminum	10	25	7.00



Type LGWA Condulets

Gauge lamp Condulets. Galvanized or enamel. Take incandescent lamps with S14, S17, G18½ or P19 bulb. Furnished with Benjamin receptacle No. 4202 with lamp grip. For flexible armored cord.

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
LGWA0	Cast Iron	10	65	\$5.00
LGWA00	Aluminum	10	25	7.00



Type PR Series Condulets

For use where durable, watertight, junction Condulets of medium size are required, as in railroad yards and shops. They are also suitable for underneath or overhead car wiring installations.

Any assortment of 50 black enameled and galvanized Condulets of the PR series will be considered a standard package.

Type PRC Condulets



Galvanized or enamel. Inside dimensions, diameter, 6½ inches; depth, varies with sizes.

Furnished with cast iron cover, gasket, and cap screws.

Any assortment of 50 black enameled and galvanized Condulets of the PR series will be considered a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
PRC3	1	15	175	\$4.75
PRC4	1¼	15	180	4.95
PRC5	1½	10	125	5.15
PRC6	2	5	65	5.55

Type PRT Condulets

Galvanized or enamel. Inside dimensions, diameter, 6½ inches; depth, varies with sizes.

Furnished with cast iron cover, gasket, and cap screws.

Any assortment of 50 black enameled and galvanized Condulets of the PR series will be considered a standard package.

Cat. No.	SIZE, INCHES			Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	A	B	C			
PRT3	1	1	1	15	185	\$4.90
PRT4	1¼	1¼	1¼	15	190	5.10



Type PRX Condulets

Galvanized or enamel. Inside dimensions, diameter, 6½ inches; depth, varies with sizes.

Furnished with cast iron cover, gasket, and cap screws.

Any assortment of 50 black enameled and galvanized Condulets of the PR series will be considered a standard package.



Cat. No.	SIZE, INCHES				Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	A	B	C	D			
PRX3	1	1	1	1	15	200	\$5.10
PRX4	1¼	1¼	1¼	1¼	15	215	5.30

Type FJC Condulets

For Floor Outlets

Galvanized or enamel. Over all dimensions of body exclusive of hubs: length, 6½ inches; width, 4¾ inches; depth, 4¾ inches.

Furnished with cover, gasket, and screws. The cover may be cast brass, or cast iron, as desired.



With Cast Brass Cover

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FJC4000	1¼	10	145	\$9.00
FJC5000	1½	10	150	9.20

With Cast Iron Cover

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FJC400g	1¼	10	130	\$5.75
FJC500g	1½	10	135	5.95



YA Series Condulets

Galvanized or enamel. Take 2-wire, 30-ampere, 250-volt main line fuse cutouts. Condulets of the YA series, except type YAJ have gasketed cast iron doors and adjustable hinges. The hubs are cast solid with the body and have an integral bushing and tapered thread. The wiring device attaches directly to the bottom of the Condulet. Any assortment of 25 black enameled and galvanized Condulets of the YA series make a standard package.

Type YAJ Condulets



Take 2-wire 30-ampere, 250-volt main line fuse cutouts. For cutouts, see page 436, Condulet catalogue No. 2000. Furnished with cast iron door.

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YAJ1302	15	100	\$2.75

Type YAN Condulets

Galvanized or enamel. Take 2-wire, 30-ampere, 250-volt main line fuse cutouts. Furnished with cast iron door. Not drilled or tapped for conduit.



Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
YAN302	15	90	\$4.00



bushing No. CF208 can be used.

Standard package, 15. Weight, standard package, 145 lbs. Price, No. FBC2.....each \$8.90

Type FBC Condulets

Single-pole battery fuse. With 150-ampere, 250-volt link fuse block. Fuse screw centers, 2½ inches. For ¾-inch conduit. Where conduit is not required, composition

Type FBL Condulets

For single pole battery fuses. Furnished with fuse block, but without fuses. Takes 101 to 200-ampere 250-volt open link fuses.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FBL2n	¾	15	180	\$8.80
FBL3n	1	15	190	9.00



Type FBR Condulets



For single pole battery fuses. Furnished with fuse block, but without fuses. Takes 101 to 200-ampere 250-volt open link fuses.

Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FBR2n	¾	15	180	\$8.80
FBR3n	1	15	190	9.00

Type FBX Condulets

Galvanized or enamel. For battery fuses. Furnished with 150-ampere, 250-volt open link fuse blocks.

The wire terminals are of the soldered lug type. Fuse screw centers are 2½ inches.

2-pole

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FBX4322	5	185	\$23.85
FBX652	5	205	24.40

3-pole

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
FBX4323	5	190	\$28.60
FBX653	5	210	29.15



Condulet Reducers

Used to reduce Condulets from larger to smaller sizes as shown in listing. Any assortment of 200 reducers will be considered a standard package.

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
RE1308	1½-¾	50	5	\$1.15	RE93	3½-1	10	20	\$2.00
RE21	¾-½	50	5	.15	RE103	4-1	10	25	2.75
RE31	1-½	50	10	.20	RE54	1½-1¼	50	15	.40
RE41	1¼-½	50	20	.30	RE64	2-1¼	25	15	.50
RE51	1½-½	50	25	.40	RE74	2½-1¼	25	30	1.00
RE61	2-½	25	20	.50	RE84	3-1¼	25	40	1.35
RE71	2½-½	25	20	1.00	RE94	3½-1¼	10	25	2.00
RE81	3-½	25	30	1.35	RE104	4-1¼	10	25	2.75
RE91	3½-½	10	20	2.00	RE65	2-1½	25	10	.50
RE101	4-½	10	30	2.75	RE75	2½-1½	25	25	1.00
RE32	1-¾	50	10	.20	RE85	3-1½	25	40	1.35
RE42	1¼-¾	50	20	.30	RE95	3½-1½	10	25	2.00
RE52	1½-¾	50	25	.40	RE105	4-1½	10	30	2.75
RE62	2-¾	25	20	.50	RE76	2½-2	25	15	1.00
RE72	2½-¾	25	20	1.00	RE86	3-2	25	35	1.35
RE82	3-¾	25	30	1.35	RE96	3½-2	10	30	2.00
RE92	3½-¾	10	20	2.00	RE106	4-2	10	35	2.75
RE102	4-¾	10	30	2.75	RE87	3-2½	25	25	1.35
RE43	1¼-1	50	15	.30	RE97	3½-2½	10	20	2.00
RE53	1½-1	50	20	.40	RE107	4-2½	10	35	2.75
RE63	2-1	25	20	.50	RE98	3½-3	10	20	2.00
RE73	2½-1	25	30	1.00	RE108	4-3	10	25	2.75
RE83	3-1	25	30	1.35	RE109	4-3½	10	20	2.75

Condulet Unions

Any assortment of 100 Condulet unions will be considered a standard package.



Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each	Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
UN1	½	50	40	\$4.45	UN5	1½	25	60	\$1.80
UN2	¾	50	50	.50	UN6	2	10	40	2.75
UN3	1	25	40	.75	UN7	2½	10	50	4.75
UN4	1¼	25	50	1.20	UN8	3	5	35	8.00

45° Condulet Elbows

Galvanized or black enamel finish.



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
EL1	½	200	100	\$.22
EL2	¾	100	80	.30
EL3	1	50	70	.35
EL4	1¼	25	65	.65
EL5	1½	10	65	.70
EL6	2	5	35	1.15

Condulet Pedestals

Three Inches High

Rigid support for Condulets mounted on conduit that projects through the floor. Furnished with set screws.

Cat. No.	Size In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
PED13	½	35	85	\$.95
PED23	¾	35	100	1.20
PED33	1	25	85	1.45



Condulet Finishes

Iron Condulets and Covers

Standard finish is galvanized on the exterior and black enamel finish on the interior on Condulets, Condulet bodies and metal covers, when order specifies galvanized finish. This finish will be furnished unless some other finish is specified. Black enamel finish will be furnished at the same price if specially ordered.

Assortments

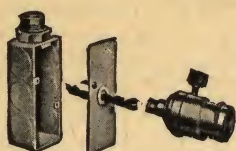
Black enameled and galvanized Condulets and Condulet bodies of the same type and size may be assorted to make a standard package. Black enameled and galvanized covers of the same type and size may be assorted to make a standard package. Black enameled and galvanized Condulet accessories of the same type and size may be assorted to make a standard package.



No. SP48241 Branch Spraguelets



Dead End Assembly
Cover No. SP48C6 with
BX Connector



Dead End Assembly
Cover No. SP48C11 with Drop
Cord and Key Socket



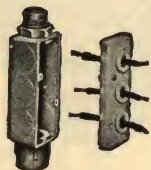
Back Entrance Assembly
Cover No. SP48C24
with Key Socket



Back Entrance Assembly
Porcelain Cover No. SP48C82
with Key Socket

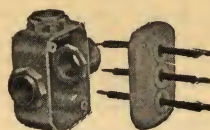


Back Entrance Assembly
Porcelain Cover No. SP48C75
with Drop Cord and Key
Socket



Straight Thru Assembly
Porcelain Cover
No. SP48C77 for Three
Wires

No. SP14241 Shallow Spraguelets



T Assembly
Porcelain Cover
No. SP14C77 for
Three Wires



T Assembly
Cover No. SP14C24
with Key Socket and
Nipple Outlet



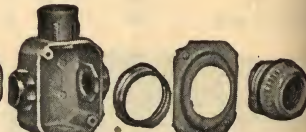
L Assembly
Porcelain Cover
No. SP14C84 with Nipple
Outlet



T Assembly
Cover No. SP14C34
for Standard Ames
2-screw Receptacles



T Assembly
Cover No. SP14C35
for Screw Ring Receptacles



T Assembly
Cover No. SP14C31
for Federal Receptacles

No. SP34461 Deep Spraguelets



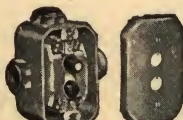
T Assembly—Plate No. SP34R14
with G. E. Tumbler Switch



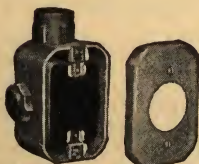
T Assembly—Plate No. SP34R4
with Rotary Switch



T Assembly—Plate No. SP34R7
with Standard Duplex
Receptacle



T Assembly—Plate No. SP34R3
with 2-button P. B.
Switch

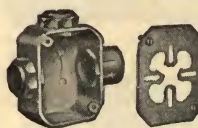


L Assembly—Plate No. SP34R13
with G. E. 25-amp.
Receptacle



L Assembly—Plate No. SP34R5
with Standard
Plug Receptacle

No. SP14241 Shallow Spraguelets



T Assembly
Cover No. SP14C28
with Front Mounted
G. E. Tumbler Switch



T Assembly
Cover No. SP14C28
with Front Mounted
Snap Switch



T Assembly
Cover No. SP14C28
with Front Mounted
H. & H. Tumbler Switch



T Assembly
Cover No. SP14C39
with Fluted Device
Key Socket



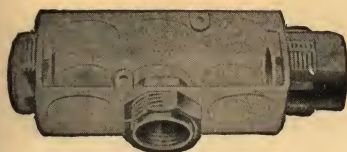
T Assembly
Cover No. SP14C39
with Fluted Device
Ceiling Pull Switch



T Assembly
Cover No. SP14C39
with Fluted Device
Plug Receptacle



No. SP48241 Branch Spraguelets



Designed primarily for junctions, taps, drop cord work, etc. The design does not readily accept a wiring device, except sockets, etc., that can be connected by means of nipples.

OUTLET.—Three in each side and bottom; one in each end. For "Exposed wiring," for 1/2-in. Conduit use coupling Cat. No. SP1410; for 3/4-in. Conduit use coupling Cat. No. SP1420. For "Concealed" wiring, for 1/2-in. Conduit use coupling Cat. No. SP1410; for 3/4-in. Conduit use coupling Cat. No. 1420, or 3/4-in. locknut and bushing. Two 1/4-in. diameter security-screw knockouts are furnished, thus affording an independent support in concealed wiring.

FINISH.—Electro-galvanized only.

NOTE.—Screws for cover-security furnished with the covers.

The following package quantities cover all branch conduit covers and bodies: Unit package, 10; standard package, 100; cover unit packages may be combined to make a standard package.

Cat. No.	Inside Dimensions Inches	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP48241	3 3/4 x 1 1/4 x 1 3/8	10	100	50	\$23.00

Covers for Branch Spraguelets



No. SP48C1



No. SP48C6

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C1	Flat, Closed.....	15	\$9.00
SP48C6	" with 1/2-inch Knockout.....	15	9.00

Covers for Branch Spraguelets



No. SP48C8



No. SP48C11

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C 8	Flat, Pendant, 1/8-in. Eyelet Bushing	16	\$10.00
SP48C11	" " " 3/8 " " "	16	14.00

Covers for Branch Spraguelets



No. SP48C22



No. SP48C23

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C22	Flat, with 1/8-inch Male Nipple....	17	\$25.00
SP48C23	" " 1/8 " Female Nipple...	20	25.00

Covers for Branch Spraguelets



No. SP48C24



No. SP48C25

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C24	Flat, with 3/8-inch Male Nipple....	20	\$35.00
SP48C25	" " 3/8 " Female Nipple...	20	35.00

Covers for Branch Spraguelets



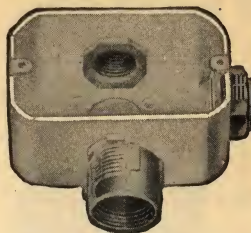
No. SP48C75



No. SP48C76

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C75	Porcelain, with One Wire Hole....	24	\$12.00
SP48C76	" " Two " Holes....	24	12.00

No. SP34461 Deep Spraguelets



Designed for the reception of all standard make of flush devices. These flush devices are mounted into this body in the same manner as is now standard practice in switch boxes, or wall cases.

OUTLETS.—One in each side and bottom.

For "Exposed" Wiring, for 1/2-in. Conduit use coupling Cat. No. SP1410; for 3/4-in. Conduit use Coupling Cat No. SP1420.

For "Concealed" Wiring, for 1/2-in. Conduit use coupling Cat. No. SP1410; for 3/4-in. Conduit use coupling Cat. No. SP1420, or 3/4-in. locknut and bushing.

FIXTURE STUDS.—Four 1/4-in. diameter knockout holes for standard fixture studs (1 1/2-in. centers) are furnished in this Conduit Body. Two of these holes can be used for screw security to independent support, when used in concealed wiring.

FINISH.—Electro-galvanized only.

NOTE.—Screws for device-security furnished with the devices.

Package quantities for all deep conduit bodies and covers are as follows: Unit package, 10; standard package, 100; cover unit packages may be combined to make standard packages.

Cat. No.	Inside Dimen. Inches	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
SP34461	3 1/2 x 2 1/4 x 1 1/8	10	100	52	\$40.00

No. SP34R1 Plates for Deep Spraguelets

Blank, for deep conduit body when used without a wiring device.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R1	17	\$12.00

No. SP34R2 Plates for Deep Spraguelets



For single push button switches with countersunk hole in center.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R2	17	\$12.00

No. SP34R3 Plates for Deep Spraguelets

For double push button switches and 6-ampere polarity plugs of all standard makes.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R3	17	\$12.00

No. SP34R4 Plates for Deep Spraguelets

For rotary switches (all standard makes). Weight, standard package, 17 pounds.

Price, No. SP34R4.....per 100 \$14.00

No. SP34R5 Plates for Deep Spraguelets



For receptacles, without door (all standard makes) 1 1/8 inches, diameter of hole.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R5	16	\$12.00

No. SP34R6 Plates for Deep Spraguelets

For receptacles, with door (all standard makes) 1 1/2-inch hole can be used with any standard Edison lamp base scores or plug receptacle.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R6	17	\$65.00





No. SP48C77 Covers for Branch Spraguelets

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C77	Porcelain, with Three Wire Holes . . .	24	\$13.00

No. SP48C78 Covers for Branch Spraguelets



Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C78	Porcelain, with Four Wire Holes	24	\$13.00



No. SP48C82 Covers for Branch Spraguelets

Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C82	Porcelain, with 1/8-inch Male Nipple	30	\$25.00

No. SP48C83 Covers for Branch Spraguelets



Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C83	Porcelain, with 1/8-inch Female Nipple	28	\$25.00



No. SP48C84 Covers for Branch Spraguelets

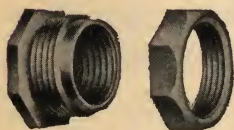
Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C84	Porcelain, with 3/8-inch Male Nipple	28	\$35.00

No. SP48C85 Covers for Branch Spraguelets



Cat. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
SP48C85	Porcelain, with 3/8-inch Female Nipple	30	\$35.00

No. SP1410 Spraguelet Couplings



For 1/2-inch conduit.
This coupling is so designed that, when assembled with the above bodies, they constitute a complete Pratt Conduit. Standard package, 100.

Price, No. SP1410 per 100 \$13.50

No. SP1420 Spraguelet Couplings

For 3/4-inch Conduit.
This coupling is so designed that, when assembled with the above bodies they constitute a complete Pratt Conduit. Standard package, 100.



Price, No. SP1420 per 100 \$20.00

No. SP34R7 Plates for Deep Spraguelets



For double plug receptacles (all standard makes).

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R7	15	\$20.00

No. SP34R8 Plates for Deep Spraguelets

For Hubbell 6-ampere Polarized Plug Receptacle.

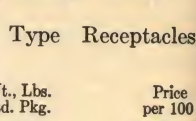
Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R8	13	\$20.00



No. SP34R9 Plates for Deep Spraguelets

For Chapman Type Receptacles, with doors.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R9	17	\$75.00



Plates for Deep Spraguelets

For Hubbell 6-ampere and 20-ampere Polarized Plug Receptacles respectively.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R11	17	\$14.00
SP34R12	16	\$14.00

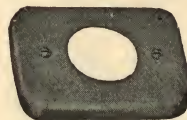


No. SP34R11

No. SP34R13 Plates for Deep Spraguelets

For G. E. 20-ampere Polarized Plug Receptacle; 1 1/2 inches, diameter of opening.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R13	16	\$14.00



No. SP34R14 Plates for Deep Spraguelets

For G. E. Tumbler Switch, remote control work, etc.

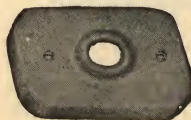
Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R14	17	\$20.00



No. SP34R15 Plates for Deep Spraguelets

For H. & H. Tumbler Switch; 1/2 inch, diameter of opening.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R15	17	\$16.00



No. SP34R16 Plates for Deep Spraguelets

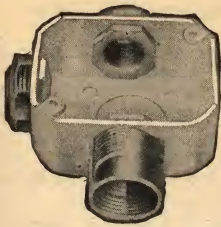
For Hubbell Tumbler Switch; diameter of opening, 2 3/8 inch.

Cat. No.	Wt., Lbs. Std. Pkg.	Price per 100
SP34R16	17	\$16.00





No. SP14241 Shallow Spraguelets



OUTLETS.—One in each side and bottom.

For "Exposed" Wiring, for ½-in. conduit use coupling Cat. No. SP1410; for ¾-in. conduit use coupling Cat. No. SP1420.

For "Concealed" Wiring, for ½-in. conduit use coupling Cat. No. SP1410; for ¾-in. conduit use coupling Cat. No. SP1420, or ¾-in. locknut and bushing.

FIXTURE STUDS.—Four ¼-in. diameter knockout holes for standard fixture studs (1½-in. centers) are furnished in this conduit body. Two of these holes can be used for screw security to independent support, when used in concealed wiring.

FINISH.—Electro-galvanized only.

NOTE.—Screws for cover-security furnished with the covers.

Package quantities on all bodies and covers are as follows: Unit package, 10; standard package, 100; cover unit packages may be combined to make standard packages.

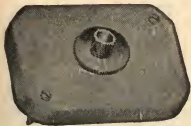
Cat. No.	Inside Dimensions Inches	Unit Pkg.	Std. Pkg.	Std. Pkg. Wt., Lbs.	Price Each
SP14241	2⅞x2¼x1⅜	10	100	45	\$30.00

Porcelain Covers for Shallow Spraguelets

Cat. No.	No. of Wire Holes	Std. Pkg.	Wt., Lbs.	Price per 100
SP14C75	1	100	20	\$12.00
SP14C76	2	100	20	12.00
SP14C77	3	100	20	13.00
SP14C78	4	100	20	13.00



No. SP14C82 Covers for Shallow Spraguelets



Porcelain, with ½-inch male nipple, fastened by a locknut.

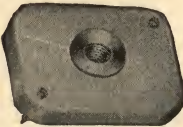
Weight standard package, 34 pounds.

Price, No. SP14C82.....per 100 \$25.00

No. SP14C83 Covers for Shallow Spraguelets

Porcelain, with ½-inch female nipple, fastened by a locknut.

Weight standard package, 32 pounds.



Price, No. SP14C83.....per 100 \$25.00

No. SP14C84 Covers for Shallow Spraguelets



Porcelain, with ¾-inch male nipple, fastened by a locknut.

Weight standard package, 32 pounds.

Price, No. SP14C84.....per 100 \$35.00

No. SP14C85 Covers for Shallow Spraguelets

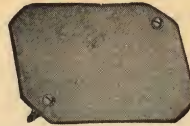
Porcelain, with ¾-inch female nipple, fastened by a locknut.

Weight standard package, 32 pounds.



Price, No. SP14C85.....per 100 \$35.00

No. SP14C1 Covers for Shallow Spraguelets



Flat, closed, suitable where pull or junction box only is desired.

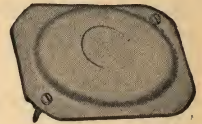
Weight standard package, 20 pounds.

Price, No. SP14C1.....per 100 \$9.00

No. SP14C7 Covers for Shallow Spraguelets

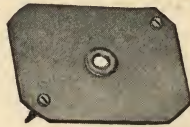
Raised, with ½-inch knockout, no opening, oval shaped.

Weight standard package, 20 pounds.



Price, No. SP14C7.....per 100 \$9.00

No. SP14C8 Covers for Shallow Spraguelets



Flat, pendant type, ½-inch eyelet bushing, for drop cord work.

Weight standard package, 17 pounds.

Price, No. SP14C8.....per 100 \$10.00

No. SP14C11 Covers for Shallow Spraguelets

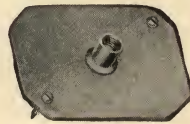
Flat, pendant type, ¾-inch eyelet bushing, for drop cord work.

Weight standard package, 17 pounds.



Price, No. SP14C11.....per 100 \$14.00

No. SP14C22 Covers for Shallow Spraguelets



Flat, with ½-inch male nipple, swaged into a notch opening.

Weight standard package, 20 pounds.

Price, No. SP14C22.....per 100 \$25.00

No. SP14C23 Covers for Shallow Spraguelets

Flat, with ½-inch female nipple, swaged into a notch opening.

Weight standard package, 20 pounds.



Price, No. SP14C23.....per 100 \$25.00

No. SP14C24 Covers for Shallow Spraguelets



Flat, with ¾-inch male nipple, swaged into a notch opening.

Weight standard package, 24 pounds.

Price, No. SP14C24.....per 100 \$25.00

No. SP14C28 Covers for Shallow Spraguelets

Flat, for all surface mounted type devices, with screw centers from ⅞ to 1⅞ inches.

Weight standard package, 13 pounds.



Price, No. SP14C28.....per 100 \$12.00



Type A Anderson Charging Plugs

Double Pole—65 Amperes



Suitable for use with Types A, B, C, D, E, G, H, K, P, R, S, T, X, Y and Z receptacles. Handle of Aetna insulation, iron or aluminum,

with all metal current-carrying parts embedded in Aetna insulation. Length over all, 6½ inches. Maximum diameter, 3½ inches.

Cat. No.	Description	Net Wt., Lbs.	Price Each
1289	With Aetna Handle.....	1½	\$3.50
1771	" Iron ".....	3	3.50
1291	" Aluminum Handle.....	1¼	4.20

Improved Type A Anderson Charging Receptacles

Double Pole—100 Amperes

Takes standard Types A, B and C plugs. Of strong construction. Frame is of iron castings, and contact parts of hard-drawn brass tubing. The insulation is Aetna. The contact parts are protected when not in use by a spring cover, which serves to keep out dust and dirt. Length over all, cover closed, 5½ inches. Height, 4 inches. Dimensions of base, 3x3¼ inches.



Cat. No.	Description	Net Wt., Lbs.	Price Each
1209	Complete with Lid.....	3	\$6.00

Type C Anderson Swivel Charging Receptacles

Double Pole—100 Amperes



Takes standard Type A and Type C plugs. Designed for use in charging batteries on steam passenger coaches, and is so arranged that it swivels in the frame, which is attached securely to the car body.

Wire terminals are concealed by the iron casing and the contact parts are protected when not in use by a spring lid, which

excludes dirt, rain or snow. Height, 8½ inches. Dimensions, 9¼x2½ inches.

Cat. No.	Description	Net Wt., Lbs.	Price Each
1569	Complete with Swivel Frame.....	20	\$10.00

Type L Anderson Telephone Plugs and Receptacles

Double Pole—10 Amp., 110 Volts—Plugs

Handle, a strong iron casting; contact and insulating parts, protected by shell of seamless drawn steel tube. Length over all, 7¾ inches; diameter, 2 inches. Net weight, 2 pounds.

Price No. 1825 Complete.....each \$6.50



Receptacles

Designed to connect portable telephone apparatus on trains and steamships with local telephone lines. Consists of a double-pole swivel base receptacle of the concentric type. Length over all, 6¾ inches; height, 5 inches. Weight, 5½ pounds.

Price, No. 1826 Complete.....each \$10.00



Type N Anderson Charging Plugs

Double-pole—Capacity, 100 Amperes, 125 Volts



No. 1915

The Type N plug has a shell which fits closely into the cylindrical shell of the receptacle, thus providing a long supporting surface which takes all mechanical strain away from the current-carrying parts. It is equipped with a special cable clamp for preventing abrasion of the insulation on the cable. The clamp also takes the mechanical strain from the soldered joints at the terminals. Length over all, 5½ inches. Diameter of steel shell, 1¾ inches.

Cat. No.	Description	Wt. Lbs.	Price Each
1915	Plug Complete with Cable Clamp.....	1⅝	\$3.50
1916	Cable Clamp Only, for Plug.....	¼	.40

Double-pole—Capacity, 150 Amperes, 125 Volts



No. 1953

This plug is of the same general design as the 100-ampere Type N, described above, differing mainly in the carrying capacity. It is equipped with removable lugs permitting of easily making soldered connections. Length over all, 10¼ inches. Diameter of steel shell, 2½ inches.

Cat. No.	Description	Wt. Lbs.	Price Each
1953	Plug Complete with Cable Clamp.....	4½	\$5.50
2045	Cable Clamp Only, for Plug.....	¼	.80

Type N Anderson Charging Receptacles

Double-pole—Capacity, 100 Amperes, 125 Volts

The receptacle proper is a seamless drawn steel shell, forming the housing for the current-carrying parts, which are insulated and held securely in position by a non-conducting compound of great heat-resisting properties. Made in several different forms of mounting.



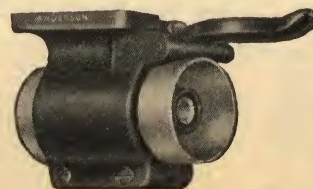
No. 1918

Receptacles without Mounting, Shell Threaded on Rear End

Cat. No.	Cap. Amps.	Description	Net Wt., Lbs.	Price Each
1918	100	.....	1	\$3.50
1944	150	.....	2½	5.20

Receptacles for Switchboard Mounting, with Front and Rear Clamping Collars

Cat. No.	Cap. Amps.	Description	Net Wt., Lbs.	Price Each
1960	100	.....	1¼	\$9.00
1961	150	.....	3	12.00



No. 1919

Receptacles for Vehicle Mounting

Cat. No.	Cap. Amps.	Description	Net Wt., Lbs.	Price Each
1919	100	Iron.....	3⅛	\$4.00
1920	100	Aluminum.....	1⅝	4.50
1945	150	Iron.....	5¼	6.00
1946	150	Aluminum.....	3⅝	7.00

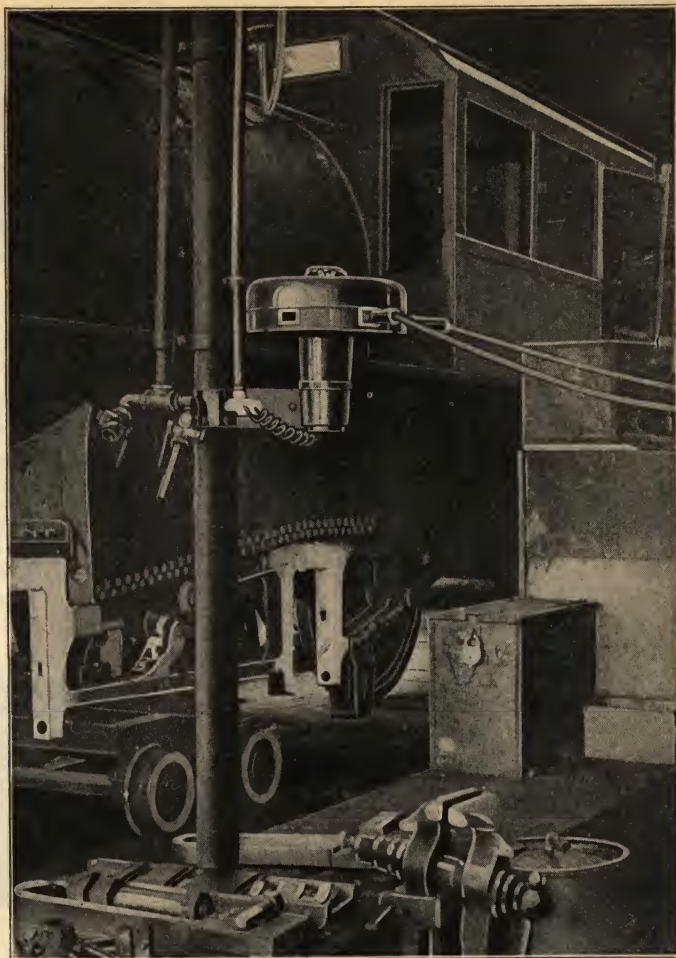
Clamps Only, with Spring Lid, without Receptacles

Cat. No.	Cap. Amps.	Description	Net Wt., Lbs.	Price Each
1923	100	Iron.....	2	\$1.00
1924	100	Aluminum.....	¾	1.50
1947	150	Iron.....	2¾	1.50
1948	150	Aluminum.....	⅞	2.30



Ralco Receptacles and Plugs

Industrial Line, Heavy Duty



No. 6 Ralco Receptacle Installed

The following factors have been kept in mind by our Engineers in designing the Ralco line: dependability, durability, and safety in operation.

The receptacles consist of heavy porcelain blocks on which are mounted phosphor-bronze contacts of ample size to carry the rated load without heating. These contacts are so designed that a wiping contact is secured. The porcelain blocks with contact are then mounted in an aluminum or cast iron case as indicated in the listing.

These cases have been designed with special reference to their use and will be found rugged, easy to mount and to wire.

Plugs are made of hard maple wood impregnated with an insulating and waterproofing compound. They are bored for Okonite re-enforced portable cord and shod with heavy brass shoes and are of ample size to give the necessary mechanical strength. They are light and practically unbreakable.

Small pin contact receptacles and plugs are easily broken and put out of service causing an endless amount of trouble in replacements and repairs. The loss of time by workmen should soon pay the added cost of the initial Ralco Installation.

The Ralco Line of receptacles and plugs offers dependable outlets for all types of portable apparatus.

Specially designed for use with portable drills, reamers, riveters, rivet heaters, welding machines, grinders, elevator conveying machinery, coal mining machines, moving exhibits, moving picture machines, stereopticons, heating appliances, and portable lights; in roundhouses, boiler and machine shops, industrial plants, coal yards, mines, quarries, docks, terminals, garages, churches, schools, hotels, residences, exhibition halls and show rooms.

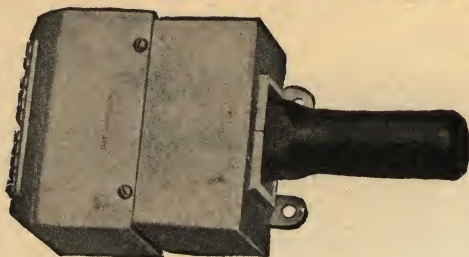
To meet a well recognized need of a dependable line of plugs and receptacles for heavy duty service under severe conditions, practical electricians have designed and developed this line known as Ralco.

It consists of a number of types of receptacles and plugs, each designed for a specific purpose and for that purpose superior to any other devices available.

The types listed cover almost every use for heavy duty receptacles and plugs that has come to our attention. However, we are prepared to furnish them in other capacities where needed.



Ralco Two-pole Plugs and Receptacles



Receptacle with Plug Inserted

For portable lamp work. The case is of aluminum which insures freedom from rust. Nos. 1 and 13 are identical in construction except that the plug No. 1 is reversible while that of No. 13 is a non-reversible plug and is recommended for all work where it is necessary to maintain polarity of the apparatus operated.

Receptacle is $5\frac{1}{2}$ inches high, 4 inches wide, $2\frac{1}{4}$ inches deep.

Mounting by four lugs, two top, two bottom. Drilled for $\frac{1}{2}$ -inch iron conduit on top. No. 1 reversible plug bored to take 2 conductor Okonite re-enforced portable cord No. 10 or smaller. No. 2 non-reversible bored to take 2 conductor No. 8 Okonite re-enforced portable cord or smaller.

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH		
				Receptacle Only	Plug Only	Complete with Plug
1	30	1 Reversible	$2\frac{1}{4}$	\$6.40	\$1.60	\$8.00
13	30	13 Non-reversible	$2\frac{1}{4}$	7.00	2.00	9.00

Ralco Two-pole Plugs and Receptacles With Non-reversible Plugs



No. 8 Receptacle and Plug

Nos. 8, 9 and 14 are intended for use with portable equipment where a reliable heavy duty receptacle and plug is required. Recommended for use in shops, hotels, office buildings, garages and other places where portable grinders, drills, riveters, elevators, etc., are used.

The receptacle consists of two heavy porcelain blocks with phosphor-bronze spring contacts of more than ample capacity to carry their rated load. These are mounted in a suitable cast iron case. Adapted for open work only.

No. 8 is 7 inches high, $4\frac{1}{2}$ inches wide, and $2\frac{7}{8}$ inches deep. Nos. 9 and 14 are $8\frac{3}{4}$ inches high, $5\frac{3}{4}$ inches wide and $3\frac{1}{2}$ inches deep.

Mounting by three holes drilled in back of cast iron case. Knockouts top and two sides. No. 8 knockouts for $\frac{3}{4}$ -inch conduit. Nos. 9 and 14 knockouts for $1\frac{1}{4}$ -inch conduit.

PLUGS.—For Catalogue No. 8 are bored for 2 conductor Okonite re-enforced portable cord, No. 8 or smaller.

For Catalogue No. 9 are bored for 2 conductor Okonite re-enforced portable cord for No. 4 B. & S.G. or smaller.

No. 14 plug bored for 2 single conductor Okonite flexible switchboard cable No. 1 B. & S.G. and smaller.

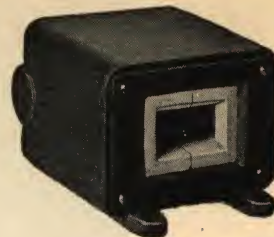
Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH		
				Receptacle Only	Plug Only	Complete with Plug
8	30	2 Non-reversible	$5\frac{1}{2}$	\$8.00	\$2.00	\$10.00
9	60	3 " "	12	14.40	3.60	18.00

Not Fusible, 125 Volts

14	100	14 Non-reversible	13	\$15.40	\$3.60	\$19.00
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Ralco Two-pole Unit Type Receptacles and Plugs



No. 21

The receptacle unit consists of our standard 30-ampere 2-pole porcelain blocks with heavy phosphor-bronze contacts. The blocks are mounted in a suitable frame for easy wiring and also for mounting in the cast iron case. Ample room is left in case for wire.

The 21 and 621 series listed below are of identical construction as to cast iron cases. The letter P following the number indicates only that the receptacles are to be furnished you with non-reversible units and plugs. The letters E.C. indicate only that the receptacles are to be furnished you with the extension and cover. The listing below is given to allow you to order by catalogue number exactly what is required.



No. 621 E. C. P.

Nos. 21, 21P, 621 and 621P are $6\frac{1}{2}$ inches high, $4\frac{1}{2}$ inches wide, and $3\frac{1}{2}$ inches deep.

Nos. 21EC, 21ECP, 621EC, 621ECP are $8\frac{1}{8}$ inches high, $4\frac{1}{2}$ inches wide, and $3\frac{1}{2}$ inches deep. Mounting by 4 lugs, 2 on top, 2 on bottom.

Bossed, top and two sides. Will be furnished drilled and tapped on top for $\frac{1}{2}$ -inch conduit, unless otherwise specified.

PLUGS.—No. 1 plug is reversible and is bored for 2 conductor Okonite re-enforced portable cord, No. 10 or smaller.

No. 2 plug is non-reversible and is bored for 2 conductor Okonite re-enforced portable cord, No. 8 and smaller.

Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH		
				Receptacle Only	Plug Only	Complete with Plug
21	30	1 Reversible	7	\$5.40	\$1.60	\$7.00
21EC	30	1 " "	8	6.60	1.60	8.20
21P	30	2 Non-reversible	7	5.50	2.00	7.50
21ECP	30	2 " "	8	6.70	2.00	8.70

Not Fusible, 600 Volts

621	30	1 Reversible	7	\$5.40	\$1.60	\$7.00
621EC	30	1 " "	8	6.60	1.60	8.20
621P	30	2 Non-reversible	7	5.50	2.00	7.50
621ECP	30	2 " "	8	6.70	2.00	8.70

Okonite is Made for Service—Not Price



Ralco No. 21X Series Receptacles and Plugs



The receptacle consists of a cast iron box and cover.

The standard No. 21 or No. 21P receptacle unit is mounted at an angle on the cover making it easy to wire and install. The letters E. C. following any catalogue number indicate that a standard extension and cover will be furnished.

Nos. 21X, 21XP, 621X, and 621XP are 5 $\frac{3}{4}$ inches high, 5 $\frac{1}{2}$ inches wide, and 5 inches deep.

Nos. 21XEC, 21XPEC, 621XEC, and 621XPEC are 7 $\frac{1}{4}$ inches high, 5 $\frac{1}{2}$ inches wide, and 5 $\frac{1}{2}$ inches deep.

Mounting by four holes in back of castings.

One $\frac{3}{4}$ -inch knockout top, bottom and two sides.

PLUGS.—No. 1 will take 2 conductor Okonite re-enforced portable cord, No. 10 or smaller. No. 2 will take 2 conductor Okonite re-enforced portable cord No. 8 or smaller.

Not Fused, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only
21X	30	1 Reversible	9	\$8.00	\$1.60
21XEC	30	1 "	10	9.20	1.60
21XP	30	2 Non-reversible	9	8.00	2.00
21XPEC	30	2 "	10	9.20	2.00

Not Fused, 600 Volts

621X	30	1 Reversible	9	\$8.00	\$1.60
621XEC	30	1 "	10	9.20	1.60
621XP	30	2 Non-reversible	9	8.00	2.00
621XPEC	30	2 "	10	9.20	2.00

Ralco No. 60 Series Two-pole Receptacles and Plugs

This series consists of a cast iron box and cover designed to take two, three or four standard No. 21 or 21P receptacle units.

No. 62 is 2-gang; 63 is 3-gang; No. 64 is 4-gang.

No. 62 is 8 inches high, 5 $\frac{1}{4}$ inches wide, and 5 $\frac{1}{2}$ inches deep.

No. 63 is 11 inches high, 5 $\frac{1}{4}$ inches wide, and 5 $\frac{1}{2}$ inches deep.

No. 64 is 14 inches high, 5 $\frac{1}{4}$ inches wide, and 5 $\frac{1}{2}$ inches deep.

Nos. 62, 63 and 64 mounting by four holes in back of box.

Tapped top and bottom for $\frac{3}{4}$ -inch conduit.

PLUGS.—No. 1 takes 2 conductor Okonite re-enforced portable cord No. 10 and smaller.

No. 2 takes 2 conductor Okonite re-enforced portable cord No. 8 or smaller.

Not Fused, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only
62	30	1 Reversible	15	\$11.50	\$1.60
63	30	1 "	19	15.50	1.60
64	30	1 "	25	19.25	1.60
62P	30	2 Non-reversible	15	11.50	2.00
63P	30	2 "	19	15.50	2.00
64P	30	2 "	25	19.25	2.00

Don't Worry About Wire Troubles—Use Okonite

Ralco Two-pole Twin Receptacles and Plugs

Non-reversible Plugs



No. 15

These twin receptacles, which are made in both fuseless and fusible types, are especially desirable around machine shops where two portable light or portable motor outlets are required. The saving of time and material in mounting one twin is marked as compared with two single outlets.

In designing the case special care was given to the ease of wiring and ample wiring space is provided.

No. 15 is fuseless.

No. 16 has fuse blocks and receptacles wired, so that to install, it is only necessary to bring the line wires to the terminals of the fuse block.

No. 16 is regularly furnished with two double pole, main line, 0-30 ampere cutouts. When specified can be furnished with one cutout instead of two, which reduces capacity to 15 amperes per plug, and price of receptacle only to \$15.00 list.

No. 15 is 7 $\frac{1}{8}$ inches high, 8 $\frac{1}{4}$ inches wide, and 2 $\frac{1}{2}$ inches deep.

No. 16 is 10 inches high, 8 $\frac{1}{4}$ inches wide, and 3 inches deep.

Mounting.—One lug on bottom and two holes in back of cast iron case.

Conduit Openings.—Knockouts top and two sides for $\frac{3}{4}$ -inch conduit.

PLUGS.—For list No. 15 and 16 are bored for Okonite re-enforced portable cord, 2 conductor, No. 8 and smaller.

Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only
15	30	2 Non-reversible	9	\$10.80	\$2.00

Fused, 250 Volts

16	30	2 Non-reversible	12	\$16.25	\$2.00
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Ralco Two-pole Triplex Receptacles and Plugs

Built on similar lines to the No. 16. Price includes 3 double pole N. E. C. fuse cutouts wired to the receptacle units. Capacity, 30 amperes per plug.

10 $\frac{1}{2}$ inches high, 11 $\frac{3}{4}$ inches wide, and 4 inches deep

Mounting by four holes in back.

Knockouts for 1 $\frac{1}{4}$ -inch conduit top and two sides.

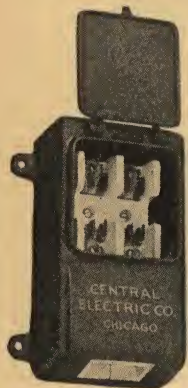
PLUGS.—No. 2 plugs bored for 2 conductor Okonite re-enforced portable cord No. 8 or smaller.

Cat. No.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only
44	2 Non-reversible	23 $\frac{1}{2}$	\$22.00	\$2.00

Okonite is an Insulating Compound Whose Basis is Rubber and It Meets the Underwriters' Requirements for Insulation Resistance Ten Times Over



Ralco Two-pole Fused Receptacles With Non-reversible Plugs



No. 2

Nos. 2 and 3 are thoroughly reliable for heavy duty service where a fused receptacle is desired. They are recommended for use in shops, office buildings, hotels and other places where portable machinery is used and where open conduit work is to be installed.

They consist of the standard Ralco two-piece receptacle, of heavy porcelain with phosphor-bronze contacts of ample capacity, mounted in a heavy cast iron case with a double pole, main line cartridge fuse cutout.

The receptacles are mounted at an angle in the case, to facilitate inserting and withdrawing plugs.

No. 2 is 11 inches high, 6 inches wide, and 3 inches deep. No. 3 is 15 inches high, 7½ inches wide, 3½ inches deep. Mounting—four lugs, two on each side. Knockouts top and sides.

No. 2 knockouts for ¾-inch conduit. No. 3 knockouts for 1¼-inch conduit.

PLUGS.—For No. 2 are bored for 2 conductor Okonite re-enforced portable cord No. 8 B. & S. G. and smaller.

For No. 3 are bored for 2 conductor Okonite re-enforced portable cord No. 4, B. & S. G. and smaller.

Fused, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
2	30	2 Non-reversible	7½	\$12.00	\$2.00	\$14.00	
3	60	3 " "	17	17.00	3.60	20.60	

Ralco Three-pole Unit Type Receptacles

30 Amperes



No. 610EC

The receptacle unit consists of the same heavy porcelain blocks used throughout the Ralco line mounted in a suitable frame. The units are easily wired and mounted in the cast iron case in which ample room has been allowed for surplus wire.

These receptacles and plugs are dependable outlets for portable machinery of all kinds in shops, warehouses, docks, mines and yards. While the No. 10 series can be used on 3 phase circuits they are also widely used on 2 wire circuits where it is desired to ground the motors of the portable equipment.

Nos. 10EC, 610EC, 4EC and 604EC are 8 inches high, 4¾ inches wide, and 4¾ inches deep.

Mounting by 3 lugs, 2 top, one bottom.

All receptacles listed below are tapped on top for 1-inch conduit.

PLUGS.—Nos. 4 and 10 plugs are bored for 3 conductor Okonite re-enforced portable cord. No. 8 or smaller.

Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
4EC	30	4 Reversible	6¾	\$11.20	\$4.00	\$15.20	
10EC	30	10 Non " "	6¾	11.20	4.00	15.20	
604EC	30	4 Reversible	6¾	\$11.20	\$4.00	\$15.20	
610EC	30	10 Non " "	6¾	11.20	4.00	15.20	

Not Fusible, 600 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
4EC	30	4 Reversible	6¾	\$11.20	\$4.00	\$15.20	
10EC	30	10 Non " "	6¾	11.20	4.00	15.20	

Ralco Three-pole Receptacles and Plugs



No. 624EC

The receptacles listed below consist of heavy porcelain blocks with wide phosphor-bronze contacts of ample capacity. These are mounted in a heavy 2-piece cast iron case, arranged for open conduit work.

The No. 19 series have reversible plugs and are used on 3-phase circuits where it is not thought desirable to ground the motors of the portable equipment.

The No. 24 series have non-reversible plugs. The 24 series may therefore be used on 2-wire circuits where it is desired to ground the motors of the portable equipment.

Nos. 19EC, 619EC, 24EC, 624EC are 11¾ inches high, 8 inches wide, and 6¾ inches deep.

Mounting by 4 lugs, two on either side.

Drilled on top for 1½-inch conduit.

PLUGS.—Bored for 3 conductor No. 4 Okonite re-enforced portable cord or smaller. The Nos. 19 and 24 series are identical, as to cases.

Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
19EC	60	19EC Reversible	21	\$21.20	\$13.00	\$34.20	
24EC	60	24EC Non-reversible	21	21.20	13.00	34.20	

Not Fusible, 600 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
619EC	60	19EC Reversible	21	\$21.20	\$13.00	\$34.20	
624EC	60	24EC Non-reversible	21	21.20	13.00	34.20	

Ralco Three-pole Receptacles and Plugs



No. 22

The Nos. 22 and 22G consist of a receptacle unit mounted in a suitable frame, a three-pole main line 30-ampere 250-volt cutout, and a heavy cast iron case with gasketed door to allow easy re-fusing.

The receptacle and fuse block are wired so that it is only necessary to bring circuit wires to fuse terminals.

The No. 22G is identical to the No. 22 excepting the 22G has one contact grounded for two-wire service, where it is thought desirable to ground the motor of the portable equipment.

11¾ inches high, 7¾ inches wide, and 5¼ inches deep.

Mounting by 4 lugs, two on each side.

Tapped on top for 1-inch conduit.

PLUGS.—Bored to take 3 conductor Okonite re-enforced portable cord No. 8 or smaller.

Fused, 250 Volts Only

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
22	30	10 Non-reversible	24	\$25.25	\$4.00	\$29.25	
22G	30	22G " "	24	25.25	4.00	29.25	

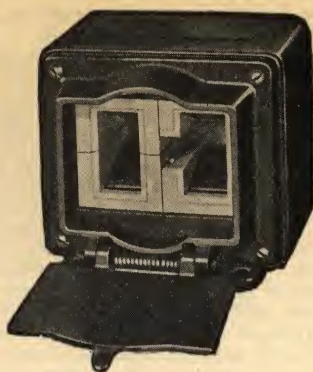
Don't Worry About Wire Troubles—Use Okonite



Ralco Four-pole Unit Type Receptacles and Plugs



No. 18 Plug



No. 18EC Receptacle

The receptacle units consist of the characteristic heavy porcelain blocks with heavy phosphor-bronze contacts. They are mounted in a suitable frame for easy wiring and for mounting in the heavy cast iron case.

Nos. 18EC and 618EC are $7\frac{3}{4}$ inches high, 5 inches wide, and $4\frac{5}{8}$ inches deep.

Mounting by four lugs, 2 top, 2 bottom.

Hub on top tapped for 1-inch conduit, top only.

PLUGS.—List No. 18 is bored for Okonite re-enforced 4 conductor portable cord No. 8, B. & S. G. or smaller.

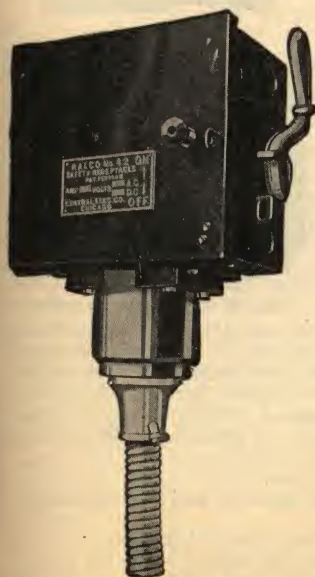
Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
18EC	30	18 Non-reversible	11½	\$16.20	\$6.00	\$22.20	

Not Fusible, 600 Volts

618EC	30	18 Non-reversible	11½	\$16.20	\$6.00	\$22.20	
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Ralco Four-pole Interlocked Receptacles and Plugs



No. 42

They consist of an approved safety switch and a No 42 receptacle and plug.

The switch and the receptacle and plug are so interlocked that the switches cannot be closed until the plug is pushed home to correct position.

The plug cannot be withdrawn until the switch is pulled to full off position.

When plug is withdrawn it automatically locks the switch in off position.

The door of the switch cannot be opened until the switch is in full off position.

The ground contact of the receptacle is grounded to the conduit system in the usual manner. The plug is threaded to take 1¼-inch Sprague Hose Armor. This armor is grounded through the plug and receptacle contact.

Not Fusible, 250 Volts D. C.—500 Volts A. C.

Cat. No.	Boxes	Amp. Cap.	Cat. No. of Plug
42	Cast Aluminum	60	42
Not Fusible, 600 Volts D. C. or A. C.			
42-6	1½-inch Steel Boxes	60	42
Fusible, 250 Volts D. C.—500 Volts A. C.			
42F2	1½-inch Steel Boxes	60	42
Fusible, 600 Volts D. C. or A. C.			
42F6	1½-inch Steel Boxes	60	42

Prices upon application

Ralco Four-wire Receptacles and Plugs



No. 624ECG

Designed to supply a 60-ampere dependable outlet where it is found desirable to ground the motor of the portable equipment. Other than the grounding contact they are identical with the 24 series. Grounding contact, (price \$1.00 each) and extension covers, (price \$2.50 each) can be furnished separately for application to any 19 or 24 series receptacles now in service, if desired.

The No. 19, 19EC, 19S, 619 and 619EC can also be made into 624ECG by ordering a No. 24 polarizing lip and 24G grounding contact listing at \$1.40 per set.

Nos. 24ECG and 624ECG are $11\frac{3}{4}$ inches high, 8 inches wide, and $6\frac{5}{8}$ inches deep.

Not Fusible, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH	Receptacle Only	Plug Only	Complete with Plug
24ECG	60	24ECG Non-reversible	21	\$22.50	\$13.00	\$35.50	

Not Fusible, 600 Volts

624ECG	60	24ECG Non-reversible	21	\$22.50	\$13.00	\$35.50	
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Ralco Receptacles and Plugs

Two-wire with Single-pole Plugs



No. 26



No. 41

The No. 26 Welding receptacle consists of two single-pole units mounted in a heavy cast iron case.

The No. 41 welding receptacle consists of two heavy porcelain blocks in which are mounted the electrical contacts of more than ample capacity. The two halves when assembled form a rectangular block $5 \times 4\frac{3}{8} \times 2\frac{1}{4}$ inches. The assembled block is then mounted in a cast iron case.

No. 26, is $11\frac{1}{2}$ inches high, 11 inches wide, and $3\frac{3}{4}$ inches deep.

No. 41 is $8\frac{3}{4}$ inches high, $4\frac{3}{8}$ inches wide, and $2\frac{1}{4}$ inches deep.

No. 26 tapped for 2-inch conduit. No. 41, 2-inch knockouts two sides and top.

PLUGS.—For both No. 26 and 41 will take 4/0 or smaller Okonite switch cord.

Cat. No.	Description	Amp. Cap.	Voltage	Price Each
26	Receptacle Only	200	125	\$26.00
26R	Plug Only	200	125	4.00
26L	"	200	125	4.00
41	Receptacle Only	225	250	21.00
41P	Positive Plug Only	225	250	12.00
41N	Negative " "	225	250	11.50



Ralco Receptacles with Grounding Contacts



No. 21G Receptacle

The Ralco receptacles with grounding contacts listed on this page, are the same as the Ralco receptacle of the same number, in design (less the letter G) listed in this catalogue, with the following exceptions.

They have a grounding contact to ground the frame of the motor of the portable equipment through the cord and plug. This method is now required in some cities by ordinance.

They require a special plug, No. 2G which is larger, and is bored to take a three conductor Okonite re-enforced portable cord No. 8 B. & S. G. or smaller.



No. 2G Plug



No. 2GB Plug

Receptacles, Not Fused, 250 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Price, Each Receptacle Only
7G	30	2G Non-reversible	\$12.60
7BG	30	2G "	12.60
8G	30	2G "	8.60
15G	30	2G "	12.00
21G	30	2G "	6.10
21ECG	30	2G "	7.20
21XG	30	2G "	8.60
21XECG	30	2G "	9.80
62G	30	2G "	12.75
63G	30	2G "	17.75
64G	30	2G "	21.75

Receptacles, Not Fused, 600 Volts

621ECG	30	2G Non-reversible	\$7.20
621XECG	30	2G "	9.80

Receptacles, Fused, 250 Volts

16G	30	2G Non-reversible	\$17.45
44G	30	2G "	23.20

Plugs

Cat. No.	Amp. Cap.	Description	Price Each
2G	30		\$3.00
2GB	30	With Bushing	4.00

Ralco Flush Type Receptacles and Plugs

Flush Types

While originally designed for open conduit work in shops Ralco Receptacles are, also, made in flush types for heavy duty service to meet the demand for a power outlet such as is frequently required in churches, schools, public halls or hotels, which will not detract from the interior finish of the building. Lodge rooms, schools, public buildings and many other places require a power outlet for moving picture machines, stereopticons, large vacuum cleaners or other kinds of portable apparatus requiring heavy current consumption.

A receptacle of the standard Ralco type with its characteristic heavy porcelain blocks and phosphor bronze contacts is held rigidly in place by suitable yokes. This is mounted in a special box.

The box is cast iron with suitable knockouts and ample room for wiring. The front of the box is lined up with the outside surface of the studding, the cover being the usual thickness of wood lath and plaster for base boards.

A heavy brushed brass plate with a center door which closes by gravity completes the device. All the work of installing is done from the front.

No. 7B Ralco Two-pole Receptacles and Plugs

250 Volts



No. 7B Cover



No. 7B Box



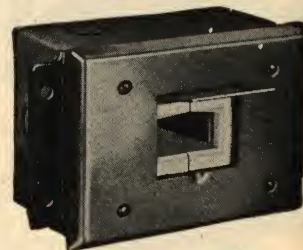
No. 7B Receptacle Unit



No. 7B Plug



No. 7B Plate



No. 7B Receptacle Complete

While there are many uses for this type of receptacle and plug, we recommend it particularly for churches, colleges, lodge halls, club rooms, hotels, schools or residences, where an outlet up to 30 amperes is required for operating stereopticons, vacuum cleaners, heating devices or any portable heavy current apparatus. Will be furnished without lock and with a brush brass finished plate.

Other finishes upon special order.

Box is $7\frac{7}{8}$ inches long, $4\frac{1}{4}$ inches wide, and $2\frac{7}{8}$ inches deep. Plate is $6\frac{3}{8} \times 4\frac{3}{4}$ inches.

Mounting by flanges on front of box with 4 holes.

Knockouts for $\frac{3}{4}$ -inch conduit on 4 sides.

Plugs.—No. 2 non-reversible bored for Okonite re-enforced portable cord No. 8 or smaller.

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH	Complete with Plug
7B	30	2 Non-reversible	7	\$12.00	\$2.00 \$14.00

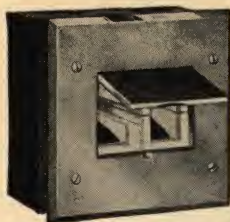
All Okonite wires, cables and cords are insulated with a 30 per cent by weight, 60 per cent by volume of pure dry fine up river para rubber compound, because we get the maximum insulating resistance, weatherproofing, flexibility and life, for the minimum cost which is economy.

Thirty per cent rubber means nothing if the 30 per cent is not the best quality of pure dry fine up river para rubber.



Ralco Flush Receptacles and Plugs

Two and Three-phase

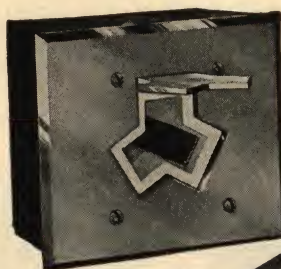


No. 17B

The three and two-phase flush type Ralco receptacles are built along the same lines as the 7B and 11B.

The receptacle consists of a cast iron box of ample size, a cover, receptacle unit and plate.

The Nos. 7B, 4B, 10B, 17B and 11B receptacles are especially adapted for sales rooms, hotels, exhibition rooms and convention halls for moving exhibits.



No. 4B

It is becoming quite popular to install power outlets in halls used for convention purposes.

Their installation allows quick and safe connections to be made by the hall owner to such exhibits as require power, doing away with temporary wiring for each convention. The safety and actual saving over temporary work will soon pay for a safe and permanent installation of Ralcos.

Nos. 4B and 10B box is $7\frac{1}{2} \times 5\frac{7}{8} \times 2\frac{7}{8}$ inches; plate, $6\frac{1}{8} \times 7$ inches.

No. 24B box is $9\frac{1}{8} \times 5\frac{7}{8} \times 4$ inches; plate, $7\frac{3}{4} \times 9\frac{3}{4}$ inches.

No. 17B box is $7\frac{1}{2} \times 5\frac{7}{8} \times 2\frac{7}{8}$ inches; plate, $6\frac{1}{4} \times 6\frac{1}{4}$ inches.

MOUNTING.—All catalogue numbers have flanges on front of box with four holes.

Nos. 4B and 10B have 4 1-inch knockouts, 1 on each side.

No. 17B has 4 1-inch knockouts, 1 on each side.

No. 24B has 4 $1\frac{1}{4}$ -inch knockouts, 1 on each side.

PLUGS.—Bored for Okonite re-enforced portable cord as follows:

Nos. 4 and 10—for 3 conductor 8 or smaller.

No. 24—for 3 conductor 4 or smaller.

No. 17—for 4 conductor 8 or smaller.

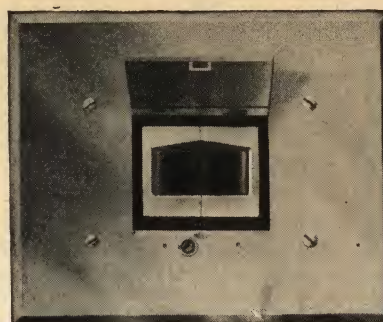
3-pole, 250-volt

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	Receptacle Only	Plug Only	Complete with Plug
4B	30	4 Reversible	10	\$14.00	\$4.00	\$18.00
10B	30	10 Non-reversible	10	14.00	4.00	18.00
24B	60	24 " "	13	23.60	13.00	36.60

4-pole, 250-volt

17B	30	18 Non-reversible	11	\$18.00	\$6.00	\$24.00
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No. 11B Ralco Flush Receptacles with Non-reversible Plug



The outfit consists of cast iron box, receptacle, unit plate and plug.

Plate is regularly furnished with brushed brass finish. Other metal finishes furnished when specified.

Flush lock mounted on plate will be regularly furnished with this receptacle.

Box is $5\frac{7}{8}$ inches high, $9\frac{1}{8}$ inches wide, and 4 inches deep. Plate, $9\frac{3}{8} \times 7\frac{3}{4}$.

Mounting by four holes on flanges on each side.

One $1\frac{1}{4}$ -inch knockout on four sides.

PLUGS.—Bored to take Okonite re-enforced portable cord No. 4 or smaller.

2-pole, 250-volt

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	Receptacle Only	Plug Only	Complete with Plug
11B	60	3 Non-reversible	16	\$22.00	\$3.60	\$25.60

Ralco Flush Plugs, Receptacles and Boxes

Non-reversible Plug



No. 7

This device is recommended where conduit is to be laid in concrete walls as a permanent wireway for portable lamps, portable machinery, stereopticons, and portable battery charging outlets, in all places where space is of value. It is especially valuable for locomotive pits, basements, etc. It is also adaptable to all other forms of conduit construction.

The mounting bases for the receptacle unit itself are set back in the box one inch from face of concrete. This eliminates the possibility of accidental breakage.

The receptacle outlet box is so designed that when installed with the face flush with the wall, the floor of the box will have a downward angle toward the entrance for drainage.

The plates have a spring door covering the receptacle opening.

Plate with receptacle unit is mounted upon the cast iron box with 4 screws. The standard finish of plate is black.

NOTE.—No. 7 receptacle can be furnished in 2-gang at a price of \$17.00 each. In ordering specify No. 7, 2-gang. Dimensions, mounting and conduit opening same as No. 11 plugs same as No. 7. Prices above include gaskets.

No. 7, $6\frac{1}{8}$ inches high, $4\frac{1}{8}$ inches wide, 6 inches deep.

No. 11, $8\frac{1}{4}$ inches high, $8\frac{3}{4}$ inches wide, $6\frac{1}{4}$ inches deep.

Mounting by four holes on face flange for mounting on concrete form.

No. 7, $\frac{3}{4}$ -inch knockouts, 4 sides and rear.

No. 11, $1\frac{1}{4}$ -inch knockouts, 4 sides and rear.

PLUGS.—Bored to take Okonite re-enforced portable cord. No. 2 plug for No. 8 or smaller. No. 3 for No. 4 or smaller.

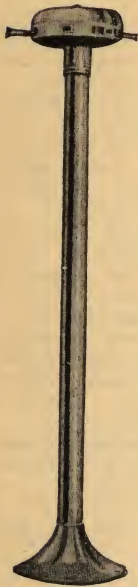
2-pole, 250-volt

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt. Lbs. with Plug	Receptacle Only	Plug Only	Complete with Plug
7	30	2 Non-reversible	11	\$12.00	\$2.00	\$14.00
11	60	3 " "	17	23.40	3.60	27.00



Ralco Revolving Head Receptacles

Pedestal and Bracket Types



The revolving head has a total capacity of 30 amperes which is divided into six circuits of 5 amperes each. When equipped with a No. 91102 D. & W. cutout, the capacity is 5 amperes per circuit on 250 volts. When equipped with No. 62965 plug cutout the capacity is 5 amperes per circuit on 125 volts.

No. 5 Pedestal Type

Revolving head is 6½ feet high and set into 3-inch pipe; diameter of the flange, 16 inches. Regularly furnished complete with a plug for each of the six receptacles.

No. 6 Bracket Type

Mounted on a bracket which must have a socket for the revolving head, 3½ inches in diameter and 3½ inches long and extending from mounting surface not less than 18 inches to the center of the socket. The price below includes standard bracket which is furnished for mounting on flat surface unless otherwise specified.

Can be furnished 30 amperes per circuit at an additional cost of \$40.00 each list.

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only
No. 5					
5	30	1 Reversible	125	\$80.50	\$1.60
5A	30	1 "	125	80.50	1.60
6	30	1 "	75	70.50	1.60
6A	30	1 "	75	70.50	1.60

NOTE.—5 and 6—250 volts. 5A and 6A—125 volts.

If ordered complete, 6 No. 1 plugs will be furnished per receptacle.

No. 5 and 5A, height, 78 inches, diameter of turret, 14 inches. No. 6 and 6A, height, 20 inches, diameter of turret, 14 inches.

Either Nos. 5 or 6 can be furnished for non-reversible plugs if so ordered.

Ralco Receptacles and Plugs

Suspension Type—Aluminum Cases



No. 103

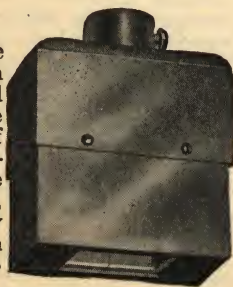
The suspension type was designed for use in shops, warehouses and other locations where posts or other methods of mounting were not available. This type can be suspended from girders, sills, or ceilings at any determined height from the floor. Made in two and three-pole.

Nos. 1ST and 13ST are 5 inches high, 4 inches wide, and 2¼ inches deep.

Nos. 4ST and 10ST are 5½ inches high, 4¾ inches wide, 4½ inches deep.

Tapped top opening for either ¾-inch conduit or Type R36 fitting—for ¾-inch hose armor.

PLUGS.—Standard Ralco, as specified above.



No. 1ST

2-pole, 250-volt

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only	Complete with Plug
1ST	30	1 Reversible	2¼	\$7.25	\$1.60	\$8.85
13ST	30	2 Non-reversible	2¼	7.80	2.00	9.80

3-pole, 250 volt

Cat. No.	Amp. Cap.	Cat. No. of Plug	Wt., Lbs. with Plug	PRICE, EACH Receptacle Only	Plug Only	Complete with Plug
4ST	30	4 Reversible	4¼	\$10.00	\$4.00	\$14.00
10ST	30	10 Non-reversible	4¼	10.00	4.00	14.00

Ralco Three-pole Receptacles and Plugs

Steel Box Type



Boxes are made of No. 11 B.W.G. galvanized steel in which are mounted standard Ralco receptacle units.

We list below the various combinations in which this type can be furnished.

Not Fused, 600 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Price Each
625	60	24 Non-reversible	*
625G	60	24G "	*

Fused, 600 Volts

Cat. No.	Amp. Cap.	Cat. No. of Plug	Price Each
622F	30	10	*
625F	60	24	*
625FG	60	24G	*

Not Fused with Safety Switch Wired in Series

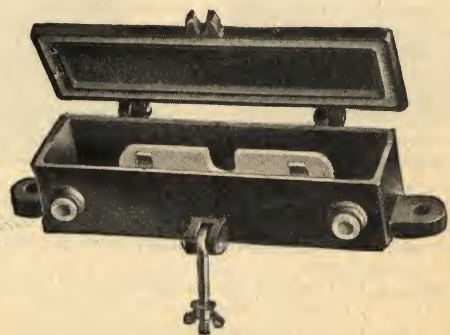
Cat. No.	Amp. Cap.	Cat. No. of Plug	Price Each
625S	60	24	*
625SG	60	24G	*

With Fused Safety Switch Wired in Series

Cat. No.	Amp. Cap.	Cat. No. of Plug	Price Each
622FS	30	10	*
625FS	60	24	*
625FSG	60	24G	*

Ralco Transformer and Junction Cutouts

600 Volts



With Lift Cover

Waterproof—With Lift Cover

Cat. No.	Amp. Cap.	DIMENSIONS OVER ALL, IN.			Wt. Lbs.	Price Each
		Long	Wide	Deep		
GD30L	30	12 $\frac{3}{4}$	4 $\frac{3}{4}$	3 $\frac{1}{4}$	7 $\frac{1}{4}$	\$10.00
GD60L	60	14 $\frac{3}{8}$	5 $\frac{1}{8}$	4 $\frac{1}{2}$	11	12.00

Waterproof—With Drop Cover

GD30D	30	12 $\frac{3}{4}$	4 $\frac{3}{4}$	3 $\frac{1}{4}$	7 $\frac{1}{4}$	\$10.00
GD60D	60	14 $\frac{3}{8}$	5 $\frac{1}{8}$	4 $\frac{1}{2}$	11	12.00

30 amp. 2— $\frac{1}{2}$ -inch mounting holes in lugs—11 $\frac{1}{2}$ -inch centers.

30 amp. 2—½-inch mounting holes in lugs—11½-inch centers.

60 amp. 2—½-inch mounting holes in lugs—13½-inch centers.

Measurement includes hinges, hasps, lugs and locking bolt.

*Prices upon application.



O. C. Wire Splicing Connectors

For use on welding or in other service where a quick connection is desired

The two parts are permanently soldered to the cables, and are then screwed together without twisting or moving the cables, after which a piece of rubber hose is slipped over the connector.

If a permanent splice is to be made it will be necessary to cover with Okonite and Manson tape in the usual way.

Two parts only. No screws or other parts to become lost. Can be furnished in the following sizes.

Cat. No.	Size of Flexible Cable	Price Each
OC2	No. 2 61 to 259 Strands	\$1.40
OC1	" 1 91 " 259 "	1.40
OC10	" 0 91 " 259 "	1.60
OC20	" 00 91 " 427 "	1.60
OC30	" 000 91 " 427 "	2.00
OC40	" 0000 91 " 836 "	2.40

R50 Okoloom Cord Grips

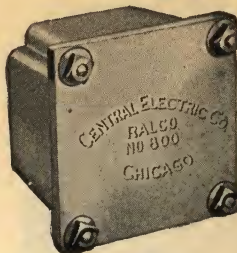
By the use of the R50 Okoloom cord grip Okoloom Cord No. 18 and 16 can be used with any plug or socket having a $\frac{3}{8}$ -inch cap.

The strain is taken up by the Okoloom weave and furnishes a means of making a neat and strong connection.

Price, No. R50.....each \$.20



Weatherproof Cast Iron Junction Boxes



Cover is held in position by square head machine bolts. The walls of the box are of ample thickness to allow drilling and tapping for conduit.

If boxes are desired drilled and tapped, send plan showing location and size.

Cat. No.	Size In.	Description
800	4x 4	2 1/2 inches deep with Cover and Bolts
801	6x 6	3 " " " " " "
802	8x10	4 " " " " " "
803	12x12	6 " " " " " "

Prices upon application.

Type L230 Combination Fuse and Push Button Switch Boxes

Two-circuit



Especially adapted for wet places, for example: packing houses, cold storage warehouses, mines, round houses and outdoor service.

The box is made of cast iron and is drilled and tapped on top for three runs of conduit as follows, $\frac{1}{2}$ -inch, $\frac{3}{4}$ -inch, $\frac{1}{2}$ -inch in the order written. Other openings can be furnished upon special order.

The L230 will take two of any standard make of push button switches and two plug or cartridge cut-outs.

Cat. No.	Depth	DIMEN., IN. Length	Width	Wt., Lbs.	Price Each
L230	3 3/8	13 1/2	8	14 1/4	\$9.25

Brass screws and gaskets included in above price.

No. G-469 Adapters

Enables the use of standard bayonet abse lamps in screw base sockets.

Single contact only.

Price, No. G-469.....each \$.50



Sockets



No. G-359



No. G-414

These are especially designed for railroad signal work and have a heat resisting insulator; the construction is such that the springs carry no current. These sockets are built to order and prices covering specific quantities will be quoted upon application.

Screw Cover Junction and Terminal Boxes



The cast iron boxes listed are approximately 4 inches in diameter and 2 1/2 inches deep.

The covers are brass to prevent rusting and are threaded with a coarse thread.



BO

Screw Cover Junction Boxes

No. 503 with bossed cover for $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch.

No. 503F with square recess for flush mounting.

No. 503H for 1 1/4-inch conduit.

Screw Cover Terminal Boxes

The same as the screw cover junction boxes, excepting a 3-wire terminal is installed in the box.

No. 503T for flush mounting and 3-wire terminal.

No. 503HT for 1 1/4-inch conduit.

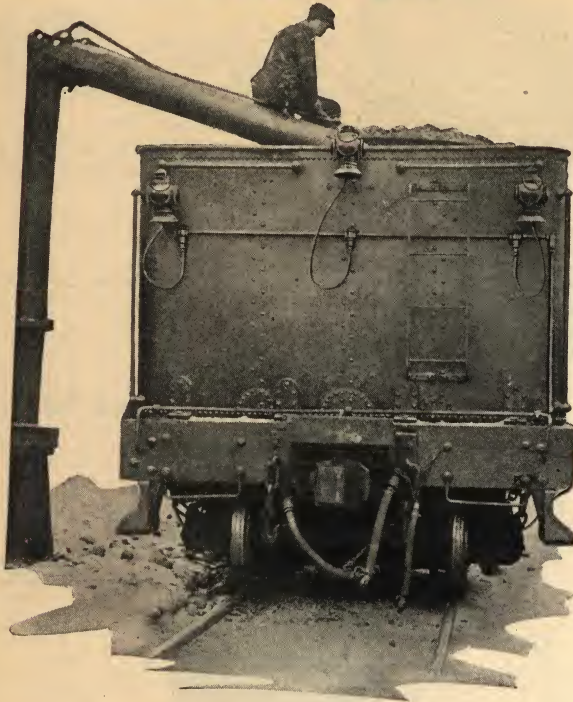
No. R3W 3-wire terminal only.

All screw cover boxes and covers listed above are interchangeable.

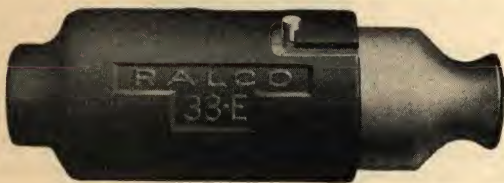
Prices upon application.



Ralco Locomotive Accessories For 30 and 60-volt Service



Ralco Locomotive Connectors



No. 33-E

Ralco Locomotive Connectors are designed for use on the lighting circuits of a locomotive at points where quick disconnection of the circuits is economical and desirable.

The requisites for this service are that the plug and receptacle must not separate by vibration, must have ample carrying capacity, be positive in their action, and quickly applied. Moreover, as they may be exposed to the weather for long periods of time, there must be no corrosion.

These conditions are fully complied with. The problem of vibration is fully met by a bayonet construction in which the plug is inserted against a spring, given a short turn and locked into place by spring tension.

The plug consists of a heavy block of insulating material in which are mounted the female self-aligning contacts, wholly protected by a cast case of non-corrosive metal.

Plugs are made in three general styles. Type A plugs are regularly threaded with $\frac{1}{2}$ or $\frac{3}{4}$ -inch standard pipe thread. Flexible hose armor may be quickly and rigidly attached to Type A plugs by means of the Type R fittings. Type B is for use with Okonite re-enforced cords. Type C plug is the standard Type A plug with strain relief bushing.

The receptacle carries the self-aligning contact fingers which are completely protected by the cast iron shell, as are the insulating blocks and current carrying parts. The contact fingers are hard drawn brass, split so as to secure proper contact. The shell is slotted and notched and a spring of oil-tempered steel holds the lugs of the connector plug firmly in place.

Receptacles are made in a number of types to meet every requirement thus far developed.

Ralco Locomotive Connectors Receptacles Only

No. 32 Series—Two-wire, No. 33 Series—Three-wire
Straight Connectors



For attaching directly to the conduit where vertical or horizontal mounting is desirable.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
32E	2-wire	$\frac{1}{2}$ or $\frac{3}{4}$	1
33E	3 "	$\frac{3}{4}$	2

Two wire straight connectors can also be furnished threaded for $\frac{1}{2}$ -inch conduit when so ordered.

45-degree Angle Connectors



Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
32AE	2-wire	$\frac{1}{2}$ or $\frac{3}{4}$	1
33AE	3 "	$\frac{3}{4}$	2 $\frac{1}{2}$

Two-wire 45-degree angle connectors can also be furnished threaded for $\frac{1}{2}$ -inch conduit when so ordered.

45-degree Angle Type with Base



Cat. No.	Style	Size Conduit Inches	Approx. Wt., Lbs.
32AEB	2-wire	$\frac{1}{2}$	1 $\frac{3}{4}$
33AEB	3 "	$\frac{3}{4}$	3 $\frac{1}{4}$

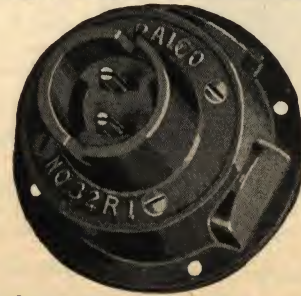
90-degree Angle Connectors



Where the conduit is horizontal with plug vertical, where the conduit is vertical with plug horizontal.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
32L	2-wire	$\frac{3}{4}$	1
33L	3 "	$\frac{3}{4}$	2 $\frac{1}{2}$

90-degree Angle Type with Pull Box



This receptacle consists of a box and a cover upon which is mounted the insulated contacts.

Cat. No.	Style	Size Conduit Inches	Approx. Wt., Lbs.
32RI	2-wire	$\frac{3}{4}$	3 $\frac{1}{4}$

Box can be tapped for either $\frac{1}{2}$ or $\frac{3}{4}$ -inch conduit and with one, two, three or four openings.

Specify size conduit and number of opening desired.



Ralco Locomotive Connectors

Receptacles Only

No. 32 Series Two-wire, No. 33 Series Three-wire

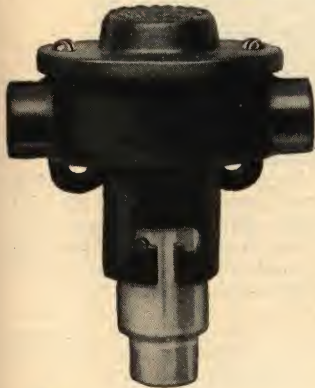
Straight Through Connectors with Removable Cap



This connector is designed for use anywhere except at the end of a run. The removable cap offers ready access to connections for wiring and furnishes a waterproof joint.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
32T	2-wire	$\frac{3}{4}$	$1\frac{3}{4}$
33T	3 "	$\frac{3}{4}$	3

BCL Connectors



The receptacle is designed for permanent mounting on the locomotive tenders and pilot beams for classification and marker lamps.

They are so constructed that they do not extend from the mounting surface to exceed 3 inches and they are compactly and strongly built. The wiring is easy, being done from the top. The BCL is made for 2-wire only.

In ordering specify receptacles and plugs separately by Cat. Nos.

Cat. No.	Style	Size Conduit Inches	Approx. Wt., Lbs.
32BCL	2-wire	$\frac{3}{4}$	$2\frac{3}{4}$

Plugs Only—Nos. 32 and 33 Series

No. 32A, No. 32B and No. 32C plugs will fit all No. 32 series receptacles.

No. 33A, No. 33B and No. 33C plugs will fit all No. 33 series receptacles.

For Okonite Portable Cord



No. 32B and No. 33B plugs for use with Okonite re-enforced portable cord.

Cat. No.	Style	Approx. Wt. Lbs.	Cat. No.	Style	Approx. Wt. Lbs.
32B	2-wire	$\frac{5}{8}$	33B	3-wire	$\frac{3}{4}$

Type C plugs are our standard Type A plugs fitted with a strain relief bushing.

Cat. No.	Style	Approx. Wt. Lbs.	Cat. No.	Style	Approx. Wt. Lbs.
32C	2-wire	$\frac{3}{4}$	33C	3-wire	$\frac{7}{8}$

Prices upon application.

All Okonite wires, cables and cords are insulated with a 30 per cent by weight, 60 per cent by volume, of pure dry fine up-river para rubber compound, because we get the maximum insulating resistance, water-proofing, flexibility and life, for the minimum cost which is economy. 30 per cent rubber means nothing if the 30 per cent is not the best quality of pure dry fine up-river para rubber.

Ralco Locomotive Connectors

Plugs Only for Sprague Flexible Hose Armor



No. 33A

The Nos. 32A and 33A are tapped for $\frac{3}{4}$ -inch rigid iron conduit. For use with $\frac{1}{2}$ -inch flexible use R32 fitting, for $\frac{3}{4}$ -inch flexible use R36 fitting.

Cat. No.	Style	Std. Pipe Thrd., In.	Approx. Wt. Lbs.
32A	2-wire	$\frac{3}{4}$	$\frac{5}{8}$
33A	3 "	$\frac{3}{4}$	$\frac{3}{4}$

Ralco Switch Type Connectors

No. 40 Series—Double Bayonet

Many electrical engineers and operating officials desire the circuits which control the classification (marker or classification lamps), so arranged that the engineer must be in a position to check the color displayed at the time he lights them.

The No. 40 Ralco switch type receptacle and plug is designed to satisfy this requirement.

In many respects this device resembles in construction the series No. 32 connectors, except that the contacts are butted contacts, though of ample size to carry any current which may be used in classification lamp service.

To light the lamps it is only necessary to push in the plug, turn it all the way to the right and release it. The plug automatically locks into the receptacle so that no amount of vibration can loosen it. To turn off the lights the plug is pushed in and turned as far as possible to the left. To disconnect the plug complete, give a half turn to the left or right and withdraw.

The use of a No. 40 Ralco connector makes it unnecessary to use a key socket in the classification lamps and permits the use of a keyless socket of a stronger and more rigid construction. The No. 40 series is made in two wires only.

Receptacles Only



No. 40E Receptacle and No. 40A Plug

Cat. No.	Conduit Size, In.	Approx. Wt. Lbs.	Cat. No.	Conduit Size, In.	Approx. Wt. Lbs.
40E	$\frac{1}{2}$ or $\frac{3}{4}$	1	40L	$\frac{3}{4}$	1
40AE	$\frac{1}{2}$ " $\frac{3}{4}$	1	40BCL	$\frac{3}{4}$	2
40AEB	$\frac{1}{2}$ " $\frac{3}{4}$				

The above receptacles can be had with single bayonet. If single bayonet is desired, use same catalogue number and specify single bayonet.

Plugs Only

The No. 40A plugs are tapped with $\frac{1}{2}$ or $\frac{3}{4}$ -inch standard pipe thread. For use with $\frac{1}{2}$ -inch flexible hose armor, use Type R32 fitting; for $\frac{3}{4}$ -inch flexible, use Type R36 fitting. Is 2-wire, and weighs $\frac{5}{8}$ -pound.

All series 40 plugs fit all series 40 receptacles.

For Okonite re-enforced cord, Okoloom or Okocord. Catalogue number 40B weighs $\frac{5}{8}$ -pound.

No. 32D Dummy Plugs with Chain



For use where marker lights are not in constant use, and where it is thought desirable to close up the receptacle.

The spring bayonet catch makes it impossible for the dummy plug to drop out when inserted.

Will fit all types series 32, and 40 receptacles.

Cat. No.	Style	Approx. Wt. Lbs.
32D	2-wire	$\frac{1}{2}$

Prices upon application. *Furnished for $\frac{1}{2}$ in. when ordered.



Ralco Locomotive Connectors

Receptacles Only

Nos. 132 and 133 Series

The contacts of the No. 132 and 133 series are telescoping or finger type and are self-aligning and of ample size for all classes of locomotive service. They are similar in construction to the 32 and 33 series except that the plug is not positively locked into the receptacle but is held in place by a latch spring.

Straight Connectors

For attaching directly to the conduit, where vertical or horizontal mounting is desired.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
132E	2 Wire	1/2 or 3/4	1
133E	3 "	3/4	2

45 Degree Angle Connectors

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
132AE	2 Wire	1/2 or 3/4	1
133AE	3 "	3/4	2 1/2

45 Degree Angle Type with Base

The A. E. B. type is identical to the A. E. excepting that the heavy mounting lugs and the case are cast in one piece.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
132AEB	2 Wire	1/2 or 3/4	1 3/4
133AEB	3 "	3/4	3 3/4

90 Degree Angle Type with Pull Box

This receptacle consists of a box and cover upon which is mounted the insulated contacts.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
132RI	2 Wire	3/4	3 1/4

Box can be furnished with 1, 2, 3 or 4 openings tapped for 1/2 or 3/4-inch conduit. Specify size and number of openings desired.

O. B. T. 133 Receptacles

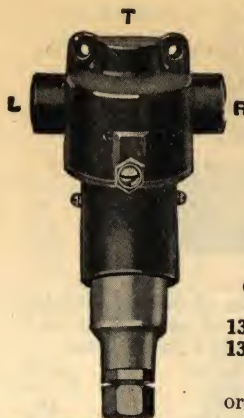


The movable cover with insulated contacts allows the mounting of this receptacle on any roof curvature and brings the plug in the line of pull and pulls out should the tender accidentally be disconnected from the locomotive. This construction also permits the conduit to run straight into the receptacle without bending the conduit, or the use of fittings.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
133OBT	3 Wire	3/4	3 1/2

Prices upon application.

Ralco OB132 Type Locomotive Receptacles



No. 132OB Receptacle and No. 132 Plug with Bushing

The receptacle consists of an outlet box and cover upon which is mounted the insulated contacts.

The cover is so constructed that it is possible to turn the receptacle either right or left 90 degrees or any angle within these limits.

It is easy to wire and install and is a complete unit in itself requiring no further fittings than the conduit and the insulated Okonite wires.

Cat. No.	Style	Conduit Size, In.	Approx. Wt., Lbs.
132OB	2-wire	1/2	2 3/4
133OB	3 "	3/4	3 1/2

Furnished tapped left, (L), top, (T), or right (R).

If not specified No. 132OB will be furnished tapped L 1/2, R 1/2 and No. 133OB 3/4-inch top only.

Plugs Only

For Nos. 132 and 133 Series Receptacles

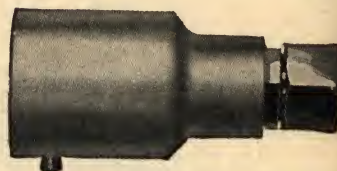
All No. 132 plugs fit all No. 132 series receptacles.
All No. 133 plugs fit all No. 133 series receptacles.



Type A for use with flexible hose armor. The No. 132A and 133A plugs are tapped with standard pipe thread 1/2 or 3/4-inch. For use with the Type R fittings and hose armor.

Cat. No.	Style	Tapped for	Approx. Wt., Lbs.
132A	2-wire	1/2 or 3/4-inch	5/8
133A	3 "	3/4-inch	3/4

Types B and C are for use with Okonite re-enforced cord, Okoloom or Okocord listed in the Okonite section of this catalogue



Cat. No.	Style	Approx. Wt., Lbs.	Cat. No.	Style	Approx. Wt., Lbs.
132B	2-wire	5/8	132C	2-wire	3/4
133B	3 "	3/4	133C	3 "	7/8

The Type C plugs are identical in construction to the Type A with the addition of a strain relief bushing.

Strain Relief Bushings



These bushings will fit all series 32A, 33A, 132A, 133A and 40A locomotive plugs.

Be careful to order correct size for the opening in the plug.

Cat. No.	Std. Pipe Thrd., In.	Cat. No.	Std. Pipe Thrd., In.
200	1/2	300	3/4

Prices upon application.



Ralco Receptacle Mounting Brackets



Cat. No. 32MB Fits Receptacle Series 32, 132 and 40
33MB " 33 and 133
Prices upon application.

Approx. Wt., Lbs.
1 3/4
2 1/2

Locomotive Terminal Boxes



No. L. C. T. 4

The box is placed on the front of the cab and furnishes suitable terminal connections for both locomotive and cab lights, which systems are kept separate.

In order to remove the cab from locomotive, leaving the wiring of both locomotive and cab intact, it is only necessary to remove the cover from the distributing box and disconnect the wires from the terminal block.

The conduit, containing the headlight wires, is removed as a unit with the conductors in place and laid to one side.

When the locomotive is reassembled, the conduit is put back in place, the cab set on and the wires connected to the distributing box. The wiring is then in the same condition as before the locomotive was shipped and no material has been wasted.

No. 11874 L. C. T. 4 Distributing Box, 1 inch.

No. 11875 L. C. T. 4 Distributing Box, 3/4 inch.

Prices upon application.

U. L. T. Locomotive Terminal Boxes



Designed as a universal box. For use on the front of the cab, inside of the cab, or on the front of the locomotive for terminating and distributing the wires going to the head light marker or blizzard lamps.

These boxes can be furnished with either 4 or 5 terminals of same type as shown on the L. T. B. box. Box is provided with 1/2-inch knockouts two sides and top. Slip fitting is tapped for 3/4-inch conduit. A hub is provided on back of box for bringing in conduit for mounting in front of cab.

Cat. No.	No. of Terminals	Approx. Wt., Lbs.	Cat. No.	No. of Terminals	Approx. Wt., Lbs.
ULT4	4	5 1/2	ULT5	5	5 1/2

Prices upon application.

Ralco Locomotive Terminal Boxes



No. LTB5

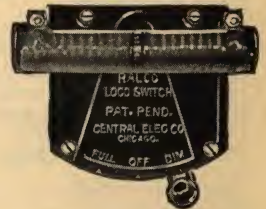
and tapped for 1/2, 3/4 or 1-inch conduit. In ordering specify the openings desired. Left-size, right-size, top-size, back-size, looking at the cut as shown. Slip fitting is drilled and tapped for 3/4-inch conduit.

Cat. No.	No. of Terminals	Approx. Wt., Lbs.	Cat. No.	No. of Terminals	Approx. Wt., Lbs.
LTB5	5	8	LTB4	4	8
LTB6	6	8	.....	.....	.....

No. L. T. B. 5 is larger and heavier than the U. L. T. 4 in design. Is also furnished with 4, 5 or 6 terminals.

The box has hubs on either side, top and in back. Can be furnished drilled for slip fit for 1/2, 3/4 or 1-inch conduit or drilled

Ralco Locomotive Switches



All current carrying parts are mounted on an insulated base and the switch handle itself carries no current.

The action is positive and when thrown into any one of the positions, "full," "off" or "dim," is held definitely in that position until moved by the engineer.

The Ralco Locomotive Switch is 6 inches wide across the top including the hubs and is 7 inches from top to the lower end of the switch handle. The switch hubs are threaded for 3/4-inch conduit.

No. 12275, complete as shown for conduit cab wiring.

No. 12276, equipped with insulated bushing for open cab wiring.

No. 12276A, has three 3/4-inch knockouts; one on top and one on each side, with right angle handle.

No. 12276C, has three 3/4-inch knockouts; one on top and one on each side, with straight handle.

No. 12275MC, same as No. 12275 except for mounting with switch handle up.

If resistance unit is desired mounted on switch use the same catalogue number as above and add the letter R.

Prices upon application.

Locomotive Head Light Resistances



Coil with Mounting

The Ralco Resistance Unit is made by winding on a porcelain tube a special resistance wire of practically zero temperature coefficient of resistivity.

After being wound the unit is completely covered with a vitreous enamel.

This construction makes the entire surface of the unit available for emitting heat.

Connections are made with suitable binding nuts and the grounding of the coils eliminated. 3.12 ohms.

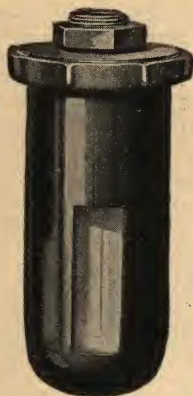
No. 1225SF complete as shown.

" 1225-S complete less feet.

Prices upon application.



No. 6000 Ralco Gauge Lights



This consists of a cast iron base and a porcelain enameled reflector.

The cast iron base has a female thread for $\frac{1}{2}$ -inch conduit and a male thread for 1-inch standard steam fitters' locknut. The outer rim of the base is threaded to take a union locknut by means of which the base and reflector are assembled. The base also carries a suitable cushion washer against which the reflector is placed when assembled. Tightening the union locknut presses the reflector against this washer which acts as a spring and prevents rattling. The union locknut is held rigidly in place by a set screw.

The well-known Maxolite porcelain socket with lamp grip is mounted upon the cast iron base.

The method of mounting is to attach to the boiler head a suitable bracket (preferably $\frac{1}{4} \times 2$ inches), bent so as to mount the gauge light at the proper angle. When so mounted, this gauge light can be used for either water, steam or oil gauge.

If wanted for wiring with portable or other cord, specify "with $\frac{1}{2}$ -inch porcelain bushing." If wanted for $\frac{3}{8}$ -inch flexible hose armor, specify "with R31 fitting." If wanted for $\frac{1}{2}$ -inch flexible hose armor, specify with R35 fitting."

Rigid iron conduit can be run directly into the gauge light.

The entire device can be easily cleaned and maintained and is of sufficient strength to withstand locomotive service.

Ralco Gauge Lights

This gauge light consists of our standard R1 Maxolite fitting upon which is mounted our No. R469 socket.

Makes a neat and substantial gauge light fitting.

Most of our customers prefer to make the reflectors from their own design. Although we are in position to furnish the tin reflectors upon receipt of specifications we would prefer to furnish the R1469 fitting.

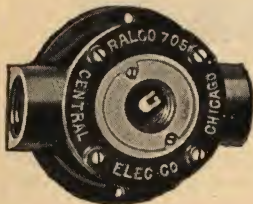
No. QR1469, Complete with Reflector Socket and Fitting.

No. QR1469, Fitting and Socket Mounted.

No. QR469, Socket Only.



Locomotive Cab Fittings



Consists of cast iron box and cover. The box is of ample depth for mounting our popular No. 70 Maxolite socket. The cover fits tightly over socket, protecting it. The combination is easily wired.

Can be used for a lamp or a plug fuse.

Furnished complete with socket, unless otherwise specified.

No. 705, Complete with No. 70 Socket.

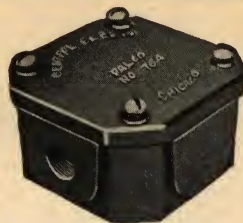
" 705B, Box only.

" 70, Socket Only.

Hubs are tapped for 1-inch conduit.

Prices upon application.

No. 704 Ralco Junction Boxes



It consists of a box, cover and four slip fittings. The slip fittings can be removed with conduit and again replaced when repairs are made.

Slip fittings are interchangeable and are furnished blank, tapped for $\frac{1}{2}$, $\frac{3}{4}$ or 1-inch as desired. The slip fittings are locked into place by the recessed cover. A good rugged box. No. 704, With 4 Slip Fittings and Cover.....each

Ralco Type R Fittings

The female threads conform to the convolution of the hose armor and the pull is distributed over the armor for several convolutions. The set screw is applied at an angle of $12\frac{1}{2}$ degrees which compresses the various convolutions against the thread of the fitting, thereby retaining the full strength of the hose armor.

Straight Type

Female Thread for Sprague Flexible Hose Armor and Male Thread for Rigid Iron Conduit



Cat. No.
R31
R32
R33
R34
R35
R36
R47
R51

Threaded for Flexible Female Thread In.
 $\frac{3}{8}$
 $\frac{1}{2}$
 $\frac{3}{4}$
1
 $\frac{1}{2}$
 $\frac{3}{4}$
 $1\frac{1}{4}$
1

Threaded for Rigid Iron Male Thread In.
 $\frac{1}{2}$
 $\frac{3}{4}$
1
 $1\frac{1}{4}$
 $\frac{1}{2}$
 $\frac{3}{4}$
 $1\frac{1}{4}$
1

Female Thread for Sprague Flexible Hose Armor and Female Thread for Rigid Conduit

Cat. No.
R42
R43
R38
R39
R49

Threaded for Flexible Female Thread In.
 $\frac{3}{8}$
 $\frac{1}{2}$
 $\frac{3}{4}$
 $\frac{3}{4}$
1

Threaded for Rigid Iron Female Thread In.
 $\frac{1}{2}$
 $\frac{1}{2}$
1
 $\frac{3}{4}$
1



Elbow Type

Female thread for Sprague flexible hose armor and male thread for rigid iron.



Cat. No.
R37
R40
R41
R45

Threaded for Flexible Female Thread In.
 $\frac{1}{2}$
 $\frac{3}{4}$
1
1

Threaded for Rigid Iron Male Thread In.
 $\frac{1}{2}$
 $\frac{3}{4}$
1
 $1\frac{1}{4}$

Female thread for Sprague flexible hose armor and female thread for rigid iron.

Cat. No.
R46

Threaded for Flexible Female Thread, In.
1

Threaded for Rigid Iron Female Thread, In.
1

Extra Flexible Hose Armor



Cat. No.
12280
12281
12284

Inside Diam., In. Wt. Lbs. per 100 Ft.
 $\frac{3}{8}$ 30
 $\frac{1}{2}$ 55
 $1\frac{1}{4}$..

Cat. No.
12282
12283
.....

Inside Diam., In. Wt. Lbs. per 100 Ft.
 $\frac{3}{4}$ 75
1 122
...

Prices upon application.



No. 510 Ralco Deck Lights

Includes a cast iron box with shield cast as one piece.

The composition socket is mounted on top of the box and forms the cover.

No. 510-1, for 1/2-inch Conduit.
" 510-2, " 3/4 " "

Prices upon application.

No. 509 Ralco Toggle Switches

Consists of a cast iron box and cover and a toggle switch. The switch is entirely protected, easily wired, and will be found serviceable. Recommended for use on locomotives, warehouses and other places where a neat conduit job is desired.

No. 509-C11, for 1/2-inch Conduit
" 509-C22 " 3/4 " "
" 509-A11 " 1/2 " "
" 509-A22 " 3/4 " "

Prices upon application.

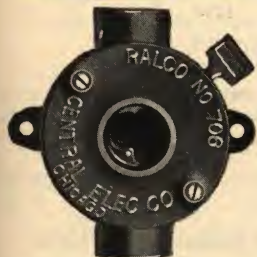


No. 706C Ralco Engineers' Lights

Consists of a cast iron box, cover and a suitable composition socket with an extra long key.

No. 706C11 for 1/2-inch Conduit.
" 706C22 " 3/4 " "

Prices upon application.



No. 504 Ralco Screw Cover Junction and Terminal Boxes

Consists of a cast iron box and a brass screw cover. Conduit only. Specify size and location of opening desired.

No. 504, Box and Cover.
" 504T " Cover and Terminal Block.
Prices upon application.



No. 505L Ralco Junction and Terminal Boxes

Consists of a cast iron box and overlapping cast iron cover and gasket.

No. 505L11, for Use with 1/2-inch Conduit.

No. 505L22, for Use with 3/4-inch Conduit.

No. 505LT11, with 2-wire Terminal Block for 1/2-inch Conduit.

No. 505LT22, with 2-wire Terminal Block for 3/4-inch Conduit.

Prices upon application.



No. 504B Ralco Junction and Terminal Boxes

Consists of a cast iron box and a brass screw cover. A 2-wire terminal can be installed.

No. 504B11, for 1/2-inch Conduit less Terminal Block.

No. 504B22, for 3/4-inch Conduit less Terminal Block.

No. 504BT11, for 1/2-inch Conduit with Terminal Block.

No. 504BT22, for 3/4-inch Conduit with Terminal Block.

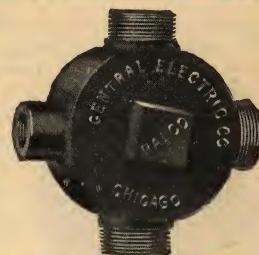
Prices upon application



No. 503SF Ralco Screw Cover Junction Boxes

No. 503SF consists of a cast iron box with 3 threaded hubs to take 1-inch Erickson Coupling or CC3 Ralco Coupling, and a brass threaded cover.

The 4th hub can be left blank tapped for 1/2-inch or 3/4-inch conduit. Will be furnished tapped for 1/2-inch conduit unless otherwise specified.



L. T. B. 4 Ralco Terminal Boxes



Especially desirable for use where two lines of conduit are to be brought in from the bottom.

Slip fillings and top can be tapped for either 1/2 or 3/4-inch conduit.

Specify size and location of openings desired.

No. 513 Ralco Vapor-proof Fittings

Especially desirable for illuminating oil intakes on oil burning locomotives or in oil houses, etc. where a vapor-proof fitting should be installed.

Will take a 50-watt mill Type P-19 or SS19 lamps.

Prices upon application.



Ralco Drop Cord Fittings



No. 508

Consist of a one, two or three-gang cast iron box and cover. The contact members are separable and made of heavy, moulded insulation with heavy contacts.

The permanent member is mounted in the box and can be wired without removing.

The cord is wired directly to the contacts of the removable member.

In order to connect or disconnect a cord it is only necessary to place the removable member into the permanent member and give it a short turn and contacts are locked into place.

The box shown has a 3/4-inch female thread on one end and a male thread on the other for use with 3/4-inch Erickson coupling or a Ralco CC2 Coupling. Can be tapped at both ends for either 1/2-inch or 3/4-inch conduit.

Can be furnished with strain relief fitting for Deltabeston Cab Cord, or for other types of cords or hose armor.

In ordering specify size and location of opening for conduit, the type of threading wanted, and type of cord used.

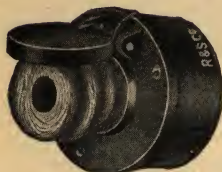
Cat. No.	No. of Gangs	Cat. No.	No. of Gangs	Cat. No.	No. of Gangs
507	1	508	2	508	3

Specify number of gangs required.
Prices upon application.



R & S Weather-proof Type Receptacles and Plugs

10 Amp., 125 Volts



No. 455

Composition receptacle, mounted in round or square iron box, with flap door, box tapped for $\frac{1}{2}$ or $\frac{3}{4}$ -inch conduit, as required, without extra charge. Plug made of heavy composition, with polished maple handle and is non-reversible or "polarity."

Suitable for greenhouses, garages, etc., on porches and all places exposed to dust or moisture.

2 Wire

Price, No. 455, 3-inch Round Box, $1\frac{3}{4}$ -inches Deep, Complete with Plug.....	each	\$3.30
Price, No. 355, 4-inch Square Box, $1\frac{3}{4}$ inches Deep, Complete with Plug.....	each	4.15
Price, No. 352, Plug Only.....	"	1.40

3 Wire

Price, No. 350, $3\frac{1}{2}$ -inch Round Box, $1\frac{3}{4}$ inches Deep, Complete with Plug.....	each	\$5.00
Price, No. 351, 4-inch Square Box, $1\frac{3}{4}$ inches Deep, Complete with Plug.....	each	5.50
Price, No. 353, Plug Only.....	"	2.50

R&S Receptacles and Plugs

30 Amperes, 250 Volts



Composition receptacle, non-reversible plug.

4x4x3 $\frac{1}{2}$ -inch weatherproof box.

No. 82, 2-wire Complete.....

each \$5.50

No. 56, 2-wire Plug... each 1.50

" 83, 3 " Complete.. each 7.50

" 57, 3 " Plug... " 1.75

R&S Receptacles and Plugs

60 Amperes, 125 Volts



Porcelain receptacle, non-reversible plug.

5 $\frac{1}{2}$ x4x2 $\frac{1}{2}$ -inch weatherproof box.

No. 71 With No. 76 Plug each \$11.00

" 72 " " 77 " 13.20

" 76 Plain Plug..... " 3.30

" 77 Protected Plug... " 5.50

R&S Receptacles and Plugs

75 Amperes, 440 Volts

Composition receptacle, 3-wire, non-reversible plug.

6 $\frac{3}{4}$ x6 $\frac{3}{4}$ x3 $\frac{1}{4}$ -inch weatherproof box.

No. 85 Complete, Exposed Work.....

each \$19.75

No. 151, Plug Only..... " 5.50

R&S Receptacles and Plugs

100 Amperes, 250 Volts

Slate receptacle, non-reversible plug.

Weatherproof box, 6 $\frac{1}{4}$ x5 $\frac{1}{4}$ x3 $\frac{1}{2}$ inches.

No. 233, Complete... each \$33.00

" 234, Plug only... " 9.90

R&S Connectors

15 Amperes, 250 Volts



Heavy moulded composition body with self-aligning contacts, very compact and unusually strong. Suitable for stage connections, garage portables, etc. It is not non-reversible or "polarity" type.

Price, No. 95, Complete.....per set \$1.65

R&S Stage Pockets

50 Amperes, 125 Volts

Porcelain receptacle, iron box and cover. Floor plate, 5 $\frac{1}{4}$ x7 $\frac{3}{4}$ inches; depth, 5 $\frac{3}{8}$ inches.

No. 13, Single with Plug each \$13.75

" 132, Two-gang with Plugs.....each 24.75

No. 133, Three-gang with Plugs.. " 34.20

No. 135, Plug only..... " 5.50



R&S Receptacles and Plugs

60 Amperes, 125 Volts



Porcelain receptacle, 2-wire, water-tight iron box; cover, 4x7 inches; depth, 4 $\frac{3}{4}$ inches; non-reversible plug. Brass cover, cap and cone.

No. 142, Complete.....each \$18.00

" 140, Plug only..... " 3.50

R&S Receptacles and Plugs

30 Amperes, 250 Volts

Composition receptacle, 3-wire, water-tight iron box; cover, 5-inch diameter; depth, 3 $\frac{3}{4}$ inches; non-reversible plug. Brass cover, cap and cone.

No. 89, Complete.....each \$9.70

" 57, Plug only..... " 1.75



75 Amperes, 440 Volts

Composition receptacle, 3-wire, water tight iron box with brass cover, cap and cone. Diameter of cover, 6 $\frac{3}{4}$ inches; depth of box, 4 $\frac{1}{2}$ inches. Non-reversible plug.

No. 155, Complete.....each \$23.00

" 151, Plug only..... " 5.50

R&S Receptacles and Plugs

100 Amperes, 250 Volts



Slate receptacle, 2-wire, watertight iron box; cover, 6 $\frac{3}{4}$ inches; depth, 4 $\frac{1}{2}$ inches; non-reversible plug. Brass cover, cone and cap.

No. 239, Complete.....each \$33.00

" 234, Plug only..... " 9.90

R&S Marine Receptacles and Plugs

5 Amperes, 125 Volts

Receptacle and non-reversible plug, mounted in 1 $\frac{3}{4}$ -inch square box, polished brass, for $\frac{1}{4}$, $\frac{3}{8}$, or $\frac{1}{2}$ -inch pipe. For one outlet only.

No. 459, Complete.....each \$4.40

" 1458, Plug only..... " 1.10



R&S Marine Receptacles and Plugs

5 Amperes, 125 Volts



Small size receptacle and non-reversible plug, mounted in polished brass 1 $\frac{3}{4}$ -inch round box, for $\frac{1}{4}$, $\frac{3}{8}$ or $\frac{1}{2}$ -inch pipe. For one outlet only. Suitable for yachts and small boats.

No. 458, Complete.....each \$4.40

" 1458, Plug only..... " 1.10

R&S Marine Receptacles and Plugs

10 Amperes, 125 Volts

Composition receptacle, non-reversible plug, in 4x2 $\frac{3}{4}$ -inch brass box. Suitable for straightway conduit.

No. 479, 2-wire Complete...each \$5.00

" 1479, 3 " " " 6.60

" 452, 2 " Plug..... " 1.25

" 1453, 3 " " " 2.50





R&S Marine Receptacles and Plugs

10 Amperes, 125 Volts



Extra strong composition receptacle and non-reversible plug, two or three wires, as listed, mounted in a brass box. Suitable for one outlet box.

Two-wire box is 2 $\frac{3}{4}$ inches in diameter; three-wire box, 3 $\frac{3}{4}$ inches.

Two-wire

No. 447 For $\frac{1}{2}$ -inch Conduit, Complete	each	\$4.40
" 1447 " $\frac{3}{4}$ " " " " " " " " " "	"	4.40

Three-wire

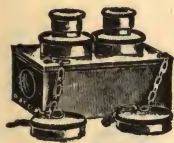
No. 484 For $\frac{3}{4}$ -inch Conduit, Complete	each	\$6.10
" 1484 " 1 " " " " " " " " " "	"	6.10

Plugs Only

No. 452, Two-wire	each	\$1.25
" 1453, Three-wire	"	2.50

R&S Marine Receptacles and Plugs

10 Amperes, 125 Volts



Composition receptacle, non-reversible plug, in brass box. Suitable for straightway conduit.

No. 495, 2-gang, 4 x 2 $\frac{3}{4}$ in.	each	\$6.60
" 638, 3 " 6 x 2 $\frac{3}{4}$ " " "	"	8.80
" 639, 4 " 4 $\frac{3}{4}$ x4 " " "	"	12.10
" 452, Plug only	"	1.25



R&S Marine Receptacles and Plugs

Extra heavy 25 and 50-ampere receptacle and non-reversible plug, mounted in a brass box. Suitable for straightway conduit.

Size of 25-ampere box, 3x5 inches; 50-ampere box, 3x6 inches.

25 Amperes

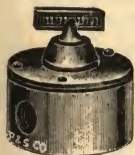
No. 1485, Marine Type for Exposed Conduit Work	each	\$15.40
" 1486, With Brush Brass Finished, Beveled Overhang Plate for Flush Work	each	17.00
No. 1488, Plug only	"	5.50

50 Amperes

No. 480, Marine Type For Exposed Conduit Work	each	\$16.50
No. 1480, With Brush Brass Finished, Beveled Overhang Plate for Flush Work	each	18.15
No. 1489, Plug only	"	5.50

R & S Marine Switches

10 Amperes, 125 Volts



Special, composition base, single-pole snap switch, in 2 $\frac{3}{4}$ -inch brass box. For one outlet only.

No. 448, Tapped $\frac{1}{2}$ inch	each	\$3.85
" 1448, " $\frac{3}{4}$ " " " " " " " " " "	"	3.85

R & S Marine Switches

10 Amperes, 125 Volts

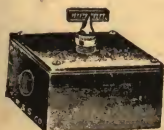
Snap switch, mounted in 3 $\frac{3}{4}$ -inch box; tapped for $\frac{1}{2}$ or $\frac{3}{4}$ -inch conduit, as required.

No. 520, Iron Box, Double-pole	each	\$4.40
No. 1520, Brass Box, Double-pole	each	5.50
No. 1521, Iron Box, Three-way	"	4.40
" 1522, Brass " " " " " " " " " "	"	5.50



R & S Marine Switches

10 Amperes, 600 Volts

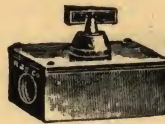


Double-pole snap switch with high voltage insulation, mounted in 4 $\frac{1}{4}$ -inch square box.

No. 156, in Iron Box	each	\$5.50
" 356, " Brass " " " " " " " " " "	"	6.60

R & S Marine Switches

125 Volts



Snap switch, single-pole, double-pole, or three-way, mounted in a brass or iron box.

Suitable for straightway conduit. Provided with special moisture-proof insulation.

10 Amperes

Cat. No.	Description	Size Box Inches	Price Each
496	Single-pole, Brass Box	4 x 2 $\frac{3}{4}$	\$4.40
1493	Double-pole " " " " " " " " " "	4 x 3	6.60
1496	Three-way " " " " " " " " " "	4 x 3	6.60

30 Amperes

521	Double-pole, Iron Box	4 $\frac{3}{4}$ x4 $\frac{1}{8}$	\$8.80
621	" Brass " " " " " " " " " "	4 $\frac{3}{4}$ x4 $\frac{1}{8}$	10.50

50 Amperes

625	Double-pole, Iron Box	6 x 5 $\frac{1}{4}$	\$15.40
626	" Brass " " " " " " " " " "	6 x 5 $\frac{1}{4}$	18.70

R & S Marine Switches

10 Amperes, 125 Volts

Special, single-pole snap switch, composition base, mounted in brass box. For straightway conduit.



No. 627, Two-gang, 4x2 $\frac{3}{4}$ x1 $\frac{5}{8}$ Inches	each	\$6.10
" 628, Three-gang, 6 $\frac{1}{8}$ x2 $\frac{3}{4}$ x1 $\frac{5}{8}$ Inches	"	7.70
" 629, Four-gang, 4 $\frac{3}{4}$ x4 $\frac{1}{8}$ x2 $\frac{3}{8}$ Inches	"	10.50

R&S Marine Switches and Receptacles



This device is a combination of a marine switch, receptacle and plug, mounted in a brass box. Suitable for straightway conduit.

10 Amperes, 125 Volts

No. 478, Complete, 2 $\frac{3}{4}$ x4-inch Box	each	\$6.60
" 452, Plug only	"	1.25

10 Amperes, N. Y. Board of Education Type

No. 1478, Complete	each	\$9.90
" 1452, Plug only	"	2.75

25 Amperes, 125 Volts

No. 1483, Complete, 7x4 $\frac{1}{2}$ -inch Box	each	\$22.00
" 1488, Plug only	"	5.50

50 Amperes, 125 Volts

No. 1487, Complete, 9x5 $\frac{1}{4}$ -inch Box	each	\$28.60
" 1489, Plug only	"	5.50

R&S Watertight Junction Boxes

Cast iron or brass junction box with plain cover. Cover is provided with gasket and fastened with brass screws.

Suitable for $\frac{1}{2}$ or $\frac{3}{4}$ -inch conduit.

Tapping, 5 cents net extra per outlet.

Iron boxes are finished in black japan, unless otherwise specified.



Iron Boxes

No. 1481, 3-inch Complete	each	\$6.65
" 382, 3 " Box only	"	.40
" 1432, 4 " Complete	"	.80
" 333, 4 " Box only	"	.50

Brass Boxes

No. 481, 3-inch Complete	each	\$1.25
" 381, 3 " Box only	"	1.00
" 432, 4 " Complete	"	1.60
" 332, 4 " Box only	"	1.30

R&S Watertight Junction Boxes

Cast iron, 4 inches square with side pads for two outlets, cover with gaskets and brass screws.

1 $\frac{1}{2}$ Inches Deep

No. 190, Complete	each	\$9.90
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2 Inches Deep

No. 199, Complete	each	1.00
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Receptacles regularly furnished with 8-inch wires. For extra length, add .05 per foot per conductor.

A Most Convincing Illustration of
the Completeness of P-A Service on

WIRES AND CABLES

of every description
is shown by the fact that we are
New England Distributors for



In their respective fields these brands are universally recognized as being the leaders—unrivalled as quality products.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Parac Rubber Covered Wire, Solid Conductors



Size B. & S.	Carrying Cap. Amps.	Std. Pkg. Feet	Type of Pkg.	Single Braid Diam. Over All, In.	Wt., Lbs. per 1000 Feet	Double Braid Diam. Over All, In.	Wt., Lbs. per 1000 Feet
0	125	3000	*Reel	19/32	420	45/64	460
1	100	500	Coil	33/64	335	5/8	350
2	90	500	"	23/64	270	9/16	280
3	80	500	"	27/64	218	33/64	225
4	70	500	Coil	25/64	180	13/32	185
6	50	1000	"	5/16	128	25/64	137
8	35	1000	"	17/64	79	11/32	86
10	25	2500	†Bundle	15/64	57	19/64	64
12	20	2500	"	7/32	41	9/32	45
14	15	2500	"	3/16	31	1/4	37

*Reel 42-inch dia.

†Bundle 5 coils.

Parac Rubber Covered Fixture Wire



Solid				Stranded			
Size B. & S.	Diam. In.	Std. Pkg. Feet	Type of Pkg.	Wt., Lbs. per 1000 Feet	Size B. & S.	Diam. In.	Std. Pkg. Feet
16	5/32	5000	Bundle	17	16	13/64	1000
18	7/64	5000	"	10	18	3/16	1000

Bundle 5 coils.

Parac Rubber Covered Wire, Twin Conductors



Solid				Stranded			
Size B. & S.	Carrying Cap. Amps.	Std. Pkg. Feet	Type of Pkg.	Diam. Over All, In.	Wt., Lbs. per 1000 Feet	Size B. & S.	Carrying Cap. Amps.
8	35	500	Coil	11/16	175	8	35
10	25	1000	"	37/64	130	10	25
12	20	1000	"	1/2	90	12	20
14	15	1000	"	27/64	74	14	15

Stranded

Size B. & S.	Carrying Cap. Amps.	Std. Pkg. Feet	Type of Pkg.	Diam. Over All, In.	Wt., Lbs. per 1000 Feet
8	35	500	Coil	49/64	180
10	25	1000	"	5/8	135
12	20	1000	"	9/16	100
14	15	1000	"	13/32	78

Parac Rubber Covered Circular Mil Cable



The wires comprising circular mil cable are laid up in a manner to give great flexibility when insulated and braided.

Cables with a greater or lesser number of wires than shown in table, composing the strand will be furnished only on special order.

Size B. & S.	Carrying Cap. Amps.	No. Wires per Strand	Std. Pkg. Feet	Type of Pkg.	Diam. Over All, In.	Wt., Lbs. per 1000 Feet
1000000	650	61	500	*Reel	1 5/8	3600
800000	550	61	600	"	1 1/2	2950
700000	500	61	700	"	1 7/16	2600
600000	450	61	800	"	1 3/8	2230
500000	400	37	1000	"	1 1/4	1860
400000	325	37	1200	"	1 1/4	1540
350000	300	37	1200	"	1 1/4	1370
300000	275	37	1500	"	1 1/4	1210
250000	250	37	1800	"	1	1010

*Reel 42-inch diameter.

Parac Rubber Covered Stranded Cable



Size B. & S.	Carrying Cap. Amps.	No. Wires	Std. Pkg. Feet	Type of Pkg.	Single Braid Diam. Over All, In.	Wt., Lbs. per 1000 Feet	Double Braid Diam. Over All, In.	Wt., Lbs. per 1000 Feet
0000	225	19	2000	*Reel	13/16	800	1 1/8	845
000	175	19	2200	"	3/4	660	7/8	700
00	150	19	2500	"	45/64	535	13/16	575
0	125	19	3000	"	5/8	440	1 1/16	480
1	100	19	500	Coil	9/16	350	43/64	370
2	90	7	500	"	1/2	275	39/64	295
4	70	7	500	"	7/16	185	17/32	190
6	50	7	1000	"	15/64	133	23/64	142
8	35	7	1000	"	3/8	81	13/32	90
10	25	7	2500	Bundle	19/64	59	3/8	67
12	20	7	2500	"	17/64	43	21/64	50
14	15	7	2500	"	15/64	33	19/64	39

*Reel 42-inch dia.

†Bundle 5 coils.

Parac Solid Rubber Covered Wire



Prices per 1000 Feet—Single Braid

Size B. & S.	13c	14c	15c	16c	17c	Extra Braid Each
0000	\$452.00	\$471.00	\$492.00	\$512.00	\$531.00	†\$25.00
000	381.00	396.00	412.00	427.00	444.00	†23.00
00	318.00	332.00	344.00	356.00	369.00	†21.00
0	269.00	278.00	289.00	299.00	308.00	†19.00
1	184.00	192.00	199.00	207.00	214.00	17.00
2	136.00	143.00	149.00	155.00	161.00	13.00
3	115.00	119.00	124.00	128.00	133.00	12.00
4	95.20	99.10	102.70	106.60	110.50	11.00
5	82.70	85.70	88.70	91.70	94.70	10.00
6	71.00	73.20	75.60	78.00	80.40	9.00
8	44.70	46.20	47.70	49.20	50.70	8.00
9	39.00	40.20	41.40	42.50	43.70	7.50
10	33.80	34.70	35.70	36.60	37.50	7.00
12	26.10	26.70	27.30	27.90	28.50	6.00
†14	21.00	21.30	21.70	22.00	22.50	5.00
16	15.60	15.90	16.00	16.30	16.60	4.00
18	13.50	13.70	13.80	14.00	14.10	3.80
*19	12.50	12.50	12.70	12.80	13.00	3.60
*20	11.40	11.50	11.70	11.70	11.80	3.40
*22	10.30	10.30	10.50	10.50	10.50	3.20

Prices per 1000 Feet—Single Braid

Size B. & S.	18c	19c	20c	21c	22c	Extra Braid Each
0000	\$552.00	\$572.00	\$591.00	\$612.00	\$632.00	†\$25.00
000	460.00	475.00	492.00	508.00	525.00	†23.00
00	381.00	395.00	407.00	420.00	432.00	†21.00
0	319.00	329.00	338.00	349.00	359.00	†19.00
1	222.00	229.00	237.00	244.00	253.00	17.00
2	167.00	173.00	179.00	185.00	191.00	13.00
3	139.00	143.00	148.00	153.00	158.00	12.00
4	114.10	118.00	121.80	125.50	129.30	11.00
5	97.70	100.70	103.70	106.70	109.70	10.00
6	82.80	85.10	87.50	89.90	92.30	9.00
8	52.20	53.70	55.20	56.70	58.20	8.00
9	44.90	46.10	47.10	48.30	49.50	7.50
10	38.60	39.50	40.50	41.60	42.50	7.00
12	29.10	29.70	30.30	30.90	31.50	6.00
†14	22.80	23.20	23.50	24.00	24.30	5.00
16	16.80	17.10	17.20	17.50	17.70	4.00
18	14.30	14.40	14.60	14.70	14.90	3.80
*19	13.10	13.10	13.30	13.40	13.60	3.60
*20	11.80	12.00	12.10	12.30	12.30	3.40
*22	10.60	10.60	10.60	10.80	10.80	3.20

†Add \$1.00 per 1000 feet list for single white paint-finished braid for exposed work on ceilings.

†Add only when more than tape and braid or double braid are required.

*Do not bear Underwriters' stamp.



Parac Rubber Covered Duplex Wire



Solid Prices per 1000 Feet—Single Braid

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	13c	14c	15c	16c	17c	
6	\$160.00	\$164.50	\$169.20	\$174.00	\$178.80	\$18.00
8	104.40	107.40	110.40	113.40	116.40	16.00
10	80.40	82.20	84.20	86.00	87.80	14.00
12	62.70	63.90	65.10	66.30	67.50	12.00
14	50.50	51.10	51.90	52.50	53.50	10.00

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	18c	19c	20c	21c	22c	
6	\$183.60	\$188.20	\$193.00	\$197.80	\$202.60	\$18.00
8	119.40	122.40	125.40	128.40	131.40	16.00
10	90.00	91.80	93.80	96.00	97.80	14.00
12	68.70	69.90	71.10	72.30	73.50	12.00
14	54.10	54.90	55.50	56.50	57.10	10.00

Stranded Prices per 1000 Feet—Single Braid

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	13c	14c	15c	16c	17c	
6	\$188.20	\$193.40	\$198.20	\$203.20	\$208.00	\$18.00
8	125.40	128.40	131.60	134.60	138.00	16.00
10	95.60	97.60	99.40	101.60	103.60	14.00
12	75.80	77.40	78.60	79.80	81.00	12.00
14	61.20	62.00	62.60	63.60	64.40	10.00

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	18c	19c	20c	21c	22c	
6	\$213.40	\$218.60	\$223.40	\$228.40	\$233.60	\$18.00
8	141.00	144.00	147.20	150.20	153.60	16.00
10	105.40	107.60	109.60	111.80	113.60	14.00
12	82.40	83.60	84.80	86.00	87.20	12.00
14	65.00	65.60	66.80	67.80	68.40	10.00

Parac Solid Rubber Covered Fixture Wire



1/64-inch Rubber Insulation

For No. 14 fixture wire, use regular single braid rubber covered wire.

Prices per 1000 Feet—Single Braid

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	13c	14c	15c	16c	17c	
16	\$15.60	\$15.90	\$16.00	\$16.30	\$16.60	\$4.00
18	10.70	10.80	11.00	11.10	11.30	3.80

Prices per 1000 Feet—Single Braid

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	18c	19c	20c	21c	22c	
16	\$16.80	\$17.10	\$17.20	\$17.50	\$17.70	\$4.00
18	11.40	11.60	11.70	11.90	12.00	3.80

Rubber Covered Extra Flexible Cable



Size B. & S.	Carrying Cap. Amps.	No. of Wires	Size Wires	Rubber Wall In.	Diam. Over- all In.	Wt., Lbs. per 1000 Feet
0000	210	665	.0179	5/64	53/64	899
0000	177	532	.0179	5/64	51/64	740
00	150	418	.0179	5/64	49/64	607
0	127	323	.0179	5/64	47/64	492
1	107	259	.0179	5/64	45/64	387
2	90	210	.0179	1/16	43/64	303
4	65	49	.0291	1/16	30/64	207
6	46	49	.023	1/16	26/64	147
8	33	49	.0183	3/64	23/64	93
10	24	35	.0179	3/64	20/64	64
12	17	41	.0126	3/64	18/64	48
14	12	26	.0126	3/64	16/64	36

Parac Stranded Rubber Covered Cable



Prices per 1000 Feet—Single Braid

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each	Flexible Cond. Each
	13c	14c	15c	16c	17c		
0000	\$452.00	\$471.00	\$492.00	\$512.00	\$531.00	\$25.00	\$40.00
0000	381.00	396.00	412.00	427.00	444.00	23.00	38.00
00	318.00	332.00	344.00	356.00	369.00	21.00	35.00
0	269.00	278.00	289.00	299.00	308.00	19.00	30.00
1	212.00	219.00	227.00	236.00	243.00	17.00	23.00
2	158.00	164.00	170.00	176.00	184.00	13.00	18.00
3	133.00	138.00	144.00	148.00	153.00	12.00	15.00
4	114.20	118.30	122.00	125.90	129.80	11.00	12.30
5	97.60	100.80	103.80	106.90	110.10	10.00	10.50
6	85.10	87.70	90.10	92.60	95.00	9.00	9.20
8	54.70	56.20	57.80	59.30	61.00	8.00	5.90
9	47.20	48.60	49.80	51.00	52.30	7.50	5.10

10	40.80	41.80	42.70	43.80	44.80	7.00	4.50
12	31.90	32.70	33.30	33.90	34.50	6.00	3.50
14	25.60	26.00	26.30	26.80	27.20	5.00	2.70
16	20.50	20.70	21.00	21.10	21.40	4.00	2.40
18	17.20	17.30	17.50	17.60	17.80	3.80	2.00
*19	15.70	15.80	15.80	16.00	16.10	3.60	1.90
*20	14.10	14.10	14.20	14.40	14.40	3.40	1.60
*22	12.90	13.10	13.10	13.10	13.20	3.20	1.50

Prices per 1000 Feet—Single Braid

Size B. & S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each	Flexible Cond. Each
	18c	19c	20c	21c	22c		
0000	\$552.00	\$572.00	\$591.00	\$612.00	\$632.00	\$25.00	\$40.00
0000	460.00	475.00	492.00	508.00	525.00	23.00	38.00
00	381.00	395.00	407.00	420.00	432.00	21.00	35.00
0	319.00	329.00	338.00	349.00	359.00	19.00	30.00
1	251.00	258.00	267.00	276.00	284.00	17.00	23.00
2	190.00	196.00	202.00	209.00	215.00	13.00	18.00
3	157.00	163.00	168.00	174.00	178.00	12.00	15.00
4	133.90	137.80	141.70	145.60	149.60	11.00	12.30
5	113.20	116.40	119.40	122.50	125.70	10.00	10.50
6	97.70	100.30	102.70	105.20	107.80	9.00	9.20
8	62.50	64.00	65.60	67.10	68.80	8.00	5.90
9	53.40	54.70	55.90	57.10	58.30	7.50	5.10
10	45.70	46.80	47.80	48.90	49.80	7.00	4.50
12	35.20	35.80	36.40	37.00	37.60	6.00	3.50
14	27.50	27.80	28.40	28.90	29.20	5.00	2.70
16	21.70	21.90	22.20	22.50	22.80	4.00	2.40
18	17.90	18.10	18.20	18.40	18.50	3.80	2.00
*19	16.30	16.40	16.40	16.60	16.70	3.60	1.90
*20	14.50	14.50	14.70	14.80	15.00	3.40	1.60
*22	13.20	13.40	13.40	13.50	13.50	3.20	1.50

Use table for flexible conductors when strand is not cotton or paper wound. When strand is cotton or paper wound, for flexible conductor, add 10 per cent to final list.

*Do not bear Underwriters' stamp.

†The prices for 0000 to 0, inclusive, include double braid

Reels

Some sizes and kinds of wire must necessarily be shipped on reels.

In such cases the reels will be billed at cost and credited at full billing value, less return freight charges, if returned to mill within six months of shipping date.

Obtain return tags and shipping instructions before shipping reels.



Parac Rubber Covered Circular Mil Cable



Prices per 1000 Feet—Double Braid

Size B.&S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	13c	14c	15c	16c	17c	
2000000	\$3283.00	\$3472.00	\$3661.00	\$3850.00	\$4039.00	\$69.00
1750000	2911.00	3076.00	3241.00	3406.00	3572.00	66.00
1500000	2541.00	2684.00	2825.00	2967.00	3108.00	62.00
1250000	2190.00	2307.00	2426.00	2544.00	2663.00	58.00
1000000	1756.00	1851.00	1945.00	2040.00	2134.00	52.00
950000	1681.00	1771.00	1860.00	1950.00	2040.00	51.00
900000	1602.00	1688.00	1773.00	1859.00	1943.00	50.00
850000	1528.00	1609.00	1688.00	1768.00	1849.00	49.00
800000	1450.00	1525.00	1602.00	1677.00	1752.00	48.00
750000	1372.00	1442.00	1513.00	1583.00	1655.00	47.00
700000	1295.00	1361.00	1427.00	1494.00	1560.00	46.00
650000	1217.00	1279.00	1340.00	1402.00	1463.00	45.00
600000	1143.00	1199.00	1256.00	1313.00	1370.00	44.00
550000	1065.00	1117.00	1170.00	1221.00	1273.00	43.00
500000	953.00	1001.00	1047.00	1095.00	1142.00	40.00
450000	872.00	914.00	956.00	1000.00	1042.00	38.00
400000	790.00	829.00	867.00	904.00	942.00	36.00
350000	709.00	742.00	775.00	808.00	841.00	34.00
300000	629.00	657.00	686.00	714.00	741.00	32.00
250000	547.00	569.00	593.00	617.00	641.00	30.00
225000	507.00	528.00	551.00	572.00	593.00	28.00

Prices per 1000 Feet—Double Braid

Size B.&S.	BASE PRICES OF COPPER, PER POUND					Extra Braid Each
	18c	19c	20c	21c	22c	
2000000	\$4228.00	\$4417.00	\$4606.00	\$4795.00	\$4984.00	\$69.00
1750000	3737.00	3902.00	4067.00	4232.00	4399.00	66.00
1500000	3251.00	3392.00	3534.00	3677.00	3818.00	62.00
1250000	2780.00	2898.00	3017.00	3135.00	3254.00	58.00
1000000	2229.00	2323.00	2418.00	2512.00	2607.00	52.00
950000	2130.00	2220.00	2310.00	2400.00	2490.00	51.00
900000	2028.00	2114.00	2198.00	2283.00	2367.00	50.00
850000	1930.00	2009.00	2090.00	2171.00	2251.00	49.00
800000	1828.00	1903.00	1980.00	2055.00	2131.00	48.00
750000	1726.00	1796.00	1867.00	1937.00	2009.00	47.00
700000	1626.00	1692.00	1758.00	1824.00	1890.00	46.00
650000	1525.00	1586.00	1648.00	1709.00	1771.00	45.00
600000	1427.00	1482.00	1539.00	1596.00	1653.00	44.00
550000	1326.00	1377.00	1429.00	1482.00	1533.00	43.00
500000	1190.00	1236.00	1284.00	1332.00	1379.00	40.00
450000	1085.00	1127.00	1169.00	1211.00	1253.00	38.00
400000	979.00	1018.00	1056.00	1093.00	1131.00	36.00
350000	874.00	907.00	942.00	975.00	1008.00	34.00
300000	770.00	798.00	827.00	855.00	884.00	32.00
250000	664.00	688.00	712.00	736.00	760.00	30.00
225000	614.00	635.00	656.00	677.00	698.00	28.00

All of the above prices on circular mil cable include double braid or tape and braid. The extra braid charge applies only when braids in addition to the original double braid are required.

Reels

Some sizes and kinds of wire must necessarily be shipped on reels.

In such cases the reels will be billed at cost and credited at full billing value, less return freight charges, if returned to mill within six months of shipping date.

Obtain return tags and shipping instructions before shipping reels.

Lead Covered Cable

Circular Mil Cable



Size C. M.	No. of Strands	Diam. of Copper Inches	Thick- ness of Rubber Inches	Thick- ness of Lead Inches	Outside Diam Inches	Approx. Wt., Lbs. per 1000 Ft.
2000000	91	1.623	$\frac{3}{64}$	$\frac{7}{64}$	2.12	11300
1750000	91	1.518	$\frac{3}{64}$	$\frac{7}{64}$	2.03	10225
1500000	91	1.403	$\frac{3}{64}$	$\frac{7}{64}$	1.91	9100
1250000	91	1.272	$\frac{3}{64}$	$\frac{7}{64}$	1.78	7960
1000000	61	1.148	$\frac{3}{64}$	$\frac{6}{64}$	1.59	6280
950000	61	1.116	$\frac{3}{64}$	$\frac{6}{64}$	1.56	6045
900000	61	1.085	$\frac{3}{64}$	$\frac{6}{64}$	1.53	5810
850000	61	1.058	$\frac{3}{64}$	$\frac{6}{64}$	1.50	5580
800000	61	1.026	$\frac{3}{64}$	$\frac{6}{64}$	1.47	5345
750000	61	.990	$\frac{3}{64}$	$\frac{6}{64}$	1.44	5110
700000	61	.959	$\frac{3}{64}$	$\frac{6}{64}$	1.41	4880
650000	61	.923	$\frac{3}{64}$	$\frac{6}{64}$	1.38	4640
600000	61	.887	$\frac{3}{64}$	$\frac{6}{64}$	1.34	4385
550000	61	.851	$\frac{3}{64}$	$\frac{6}{64}$	1.33	4150
500000	61	.810	$\frac{3}{64}$	$\frac{6}{64}$	1.20	3480
450000	37	.770	$\frac{3}{64}$	$\frac{5}{64}$	1.19	3230
400000	37	.728	$\frac{3}{64}$	$\frac{5}{64}$	1.11	3000
350000	37	.676	$\frac{3}{64}$	$\frac{5}{64}$	1.08	2750
300000	37	.630	$\frac{3}{64}$	$\frac{5}{64}$	1.02	2480
250000	37	.574	$\frac{3}{64}$	$\frac{5}{64}$	.95	2230

Stranded Cable, Single

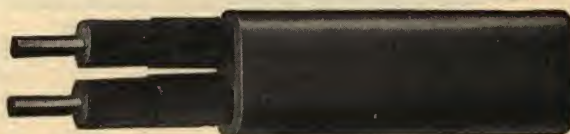
Size B. & S.	No. of Strands	Thickness of Rubber Inches	Thickness of Lead Inches	Outside Diam., In.	Wt., Lbs. per 1000 Ft.
0000	19	$\frac{3}{64}$	$\frac{4}{64}$	.84	1720
000	19	$\frac{3}{64}$	$\frac{4}{64}$	.78	1490
00	19	$\frac{3}{64}$	$\frac{4}{64}$	.73	1300
0	19	$\frac{3}{64}$	$\frac{4}{64}$	.69	1150
1	19	$\frac{3}{64}$	$\frac{4}{64}$	.66	1000
2	19	$\frac{3}{64}$	$\frac{4}{64}$	.58	840
4	7	$\frac{3}{64}$	$\frac{4}{64}$	.52	690
6	7	$\frac{3}{64}$	$\frac{4}{64}$	.47	580

Solid Cable, Single



Size B. & S.	Thickness Rubber, In.	Thickness Lead, In.	Outside Diam., In.	Wt., Lbs. per 1000 Ft.
4	$\frac{3}{64}$	$\frac{4}{64}$	.52	645
6	$\frac{3}{64}$	$\frac{4}{64}$	.47	535
8	$\frac{3}{64}$	$\frac{3}{64}$	.35	325
10	$\frac{3}{64}$	$\frac{3}{64}$	.33	285
12	$\frac{3}{64}$	$\frac{3}{64}$	.30	245
14	$\frac{3}{64}$	$\frac{3}{64}$	.25	155
16	$\frac{3}{64}$	$\frac{3}{64}$	.25	180

Solid Cable, Duplex



Size B. & S.	Thickness Rubber, In.	Thickness Lead, In.	Outside Diam., In.	Wt., Lbs. per 1000 Ft.
4	$\frac{3}{64}$	$\frac{4}{64}$	.48x.84	1085
6	$\frac{3}{64}$	$\frac{4}{64}$	.45x.78	880
8	$\frac{3}{64}$	$\frac{3}{64}$	.34x.59	535
10	$\frac{3}{64}$	$\frac{3}{64}$	.33x.57	465
12	$\frac{3}{64}$	$\frac{3}{64}$	.30x.51	390
14	$\frac{3}{64}$	$\frac{3}{64}$	.25x.43	250
16	$\frac{3}{64}$	$\frac{3}{64}$	.25x.41	280



Deltabeston Fixture Wire—Plain Single Conductor—Stranded



The flexible conductor is insulated with a $\frac{1}{32}$ -inch wall of the best grade of asbestos fiber, purified by a special process. Felted asbestos fixture wire is recommended for all classes of fixture wiring, including fixtures for gas filled incandescent lamps, car fixtures, etc., and is especially adapted for fixtures in which the temperature liable to be attained by some parts are such as to render the use of rubber covered wires or cords either undesirable or impracticable. Felted asbestos fixture wire is smooth and flexible so that it may be "fished" through fixtures with the utmost ease. Standard length, 250 feet. Unrushed on spools.

Size B. & S.	Diam. Overall In.	Stranding B. & S.	Wt., Lbs. per 1000 Ft
10	0 180	65/28	42
12	0 157	66/30	29
14	0 137	41/30	20
16	0 119	26/30	14
18	0 107	16/30	10

Single Conductor—Solid

Either the black finish or colored finish fixture wire described above can be furnished with solid conductor where extreme flexibility is not necessary. Price is five per cent less than similar fixture wire with stranded conductor.

Deltabeston Fixture Wire Cotton, Art Silk and Silk Covered

This is the plain, black finish fixture wire with a braided outer covering of silk, art silk or cotton. It is especially adapted for fixtures on which the wiring is exposed to view. It has a small diameter and is neat and attractive in appearance. This wire is furnished in single and two conductors.

Single Conductor Plain with Braid



Size B. & S.	Diam. Overall In.	Standard Length of Spools, Ft.	Wt., Lbs. per 1000 Ft.
12	0 179	250	29
14	0 167	250	22
16	0 149	250	16
18	0 137	250	12

Duplex

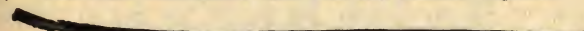
Two Plain Conductors Twisted Together and Braided



Size	Diam.	Length	Wt.
12	0 333	250	59
14	0 294	250	44
16	0 258	250	32
18	0 234	250	23

Parallel

Two Plain Conductors Laid Flat and Braided Together



Twisted Pair

Two Plain Conductors Each Braided and Twisted Together



Size	Diam.	Length	Wt.
12	0 358	250	60
14	0 324	250	45
16	0 288	250	33
18	0 264	250	25

Single Conductor Fixture Cord Cotton and Silk



Insulated with $\frac{1}{32}$ inch of rubber.
Furnished in 18 and 16 B&S gauge.
Price, one-half regular lists and 20 per cent off new lists
Not approved by Underwriters.

Rubber Covered Telephone Wire



Single Conductor, Plain Rubber



Single Conductor, Braided



Twisted Pair, Plain Rubber



Twisted Pair, Braided

Prices per 1000 Feet—Twisted Pair

Size B. & S.	Diam. Over Rubber, In.	12c	13c	14c	15c	16c	17c
14	$\frac{11}{64}$	\$37.60	\$38.00	\$38.40	\$39.00	\$39.40	\$40.00
14	$\frac{5}{32}$	33.40	33.80	34.20	34.80	35.20	35.80
16	$\frac{5}{32}$	34.20	34.40	34.80	35.00	35.40	35.80
16	$\frac{9}{64}$	29.60	29.80	30.20	30.40	30.80	31.20
16	$\frac{3}{8}$	25.00	25.20	25.60	25.80	26.20	26.60
18	$\frac{4}{32}$	25.60	25.80	26.00	26.20	26.40	26.60
18	$\frac{7}{64}$	21.20	21.40	21.60	21.80	22.00	22.20
19	$\frac{7}{64}$	21.40	21.60	21.80	22.00	22.20	22.40
19	$\frac{3}{32}$	17.00	17.20	17.40	17.60	17.80	18.00
20	$\frac{3}{32}$	17.20	17.40	17.60	17.80	18.00	18.20
22	$\frac{3}{32}$	17.20	17.40	17.60	17.80	18.00	18.20

Size B. & S.	Diam. Over Rubber, In.	18c	19c	20c	21c	22c	23c
14	$\frac{11}{64}$	\$40.40	\$41.00	\$41.40	\$42.00	\$42.40	\$42.80
14	$\frac{5}{32}$	36.20	36.80	37.20	37.80	38.20	38.60
16	$\frac{5}{32}$	36.00	36.40	36.60	37.00	37.20	37.60
16	$\frac{9}{64}$	31.40	31.80	32.00	32.40	32.60	33.00
16	$\frac{3}{8}$	26.80	27.20	27.40	27.80	28.00	28.40
18	$\frac{4}{32}$	26.80	27.00	27.20	27.40	27.60	27.80
18	$\frac{7}{64}$	22.40	22.60	22.80	23.00	23.20	23.40
19	$\frac{7}{64}$	22.40	22.60	22.80	23.00	23.20	23.40
19	$\frac{3}{32}$	18.00	18.20	18.40	18.60	18.80	19.00
20	$\frac{3}{32}$	17.80	18.00	18.20	18.40	18.60	18.80
22	$\frac{3}{32}$	17.80	18.00	18.20	18.40	18.60	18.80

Above prices are for saturated or finished braid of any color.

Single conductors are one half the price of twisted pair.

Triple conductors are one and one half times the price of twisted pair.

Four conductors are twice the price of twisted pair.

No deductions will be made for lighter insulation.

For plain twisted pair wire of the following diameters, deduct, per 1000 feet, as follows: $\frac{3}{32}$ -inch, 2.20; $\frac{7}{64}$ -inch, 2.60; $\frac{9}{64}$ -inch, 3.00; $\frac{3}{8}$ -inch, 4.00; $\frac{5}{32}$ -inch, 5.00; $\frac{11}{64}$ -inch, 6.00.

No. 17 Copperweld Twisted Pair Rubber Covered Drop Wire



No. 17 Copperweld Twisted Pair has largely replaced No. 14 copper, because it is as strong and costs less, is smaller and lighter and conforms equally with No. 14 copper to the overhead construction requirements of the National Electrical Safety Code.

The weight of No. 17 Copperweld Twisted Pair is approximately 33 pounds per 1000 feet. Because of its high strength and light weight it may be used on long aerial spans.

Furnished in two grades, 100 Megohm Test and Commercial. The pure copper exterior of each Copperweld conductor is perfectly tinned and then the wires insulated with high-grade rubber compound, over which is woven a single braid. Weatherproofing compound is applied to this braid and the two conductors are then twisted together.

Twisted Pair Telephone Wire Bridle Wire



Conductors are soft drawn tinned copper rubber insulated, braided and twisted, saturated with weather-proof compound, wax finish, one conductor having a raised tracer to distinguish it from the other. Furnished in sizes 16, 18 and 19 B. & S. gauge.

Prices quoted upon application.



Type CB Brewery Cord



Brewery cord consists of two conductors stranded, rubber insulated, braided and the two twisted together.

		Prices per 1000 Feet					
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		12c	13c	14c	15c	16c	17c
12		\$72.00	\$73.40	\$75.20	\$76.60	\$78.00	\$79.40
14		58.20	58.90	59.80	60.50	61.60	62.60
16		46.50	47.20	47.60	48.30	48.50	49.20
18		39.10	39.60	39.80	40.30	40.50	40.90
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		18c	19c	20c	21c	22c	23c
12		\$81.00	\$82.30	\$83.70	\$85.10	\$86.50	\$88.30
14		63.30	63.90	65.30	66.50	67.20	68.10
16		49.90	50.40	51.10	51.80	52.40	52.70
18		41.20	41.60	41.90	42.30	42.60	43.00

Type CC Canvasite Cord



Two conductors stranded, rubber insulated, braided, twisted together, finished with weatherproof braid.

		Prices per 1000 Feet					
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		12c	13c	14c	15c	16c	17c
12		\$93.30	\$94.80	\$96.80	\$98.30	\$98.80	\$101.30
14		75.80	76.50	77.50	78.30	79.50	80.50
16		60.50	61.30	61.80	62.50	62.80	63.50
18		52.00	52.50	52.80	53.30	53.50	54.00
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		18c	19c	20c	21c	22c	23c
12		\$103.00	\$104.50	\$106.00	\$107.50	\$109.00	\$111.00
14		81.30	82.00	83.50	84.80	85.50	86.50
16		64.30	64.80	65.50	66.30	67.00	67.30
18		54.30	54.80	55.00	55.50	55.80	56.30

Type PKWP Packinghouse Cord



Two conductors stranded, rubber insulated, braided, twisted together with jute filler and finished with two weatherproof braids.

		Prices per 1000 Feet					
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		12c	13c	14c	15c	16c	17c
12		\$108.30	\$109.80	\$111.80	\$113.30	\$114.80	\$116.30
14		88.30	89.00	90.00	90.80	92.00	93.00
16		70.50	71.30	71.80	72.50	72.80	73.50
18		61.50	62.00	62.30	62.80	63.00	63.50
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		18c	19c	20c	21c	22c	23c
12		\$118.00	\$119.50	\$121.00	\$122.50	\$124.00	\$126.00
14		93.80	94.50	96.00	97.30	98.00	99.00
16		74.30	74.80	75.50	76.30	77.00	77.30
18		63.80	64.30	64.50	65.00	65.30	65.80

Deck Cable



Deck cable consists of two conductors stranded, rubber insulated, braided, twisted together with jute filler, and finished with a belt of rubber and a weatherproof braid.

		Prices per 1000 Feet					
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		12c	13c	14c	15c	16c	17c
12		\$138.00	\$140.20	\$143.20	\$145.40	\$147.60	\$149.90
14		112.10	113.20	114.70	115.80	117.70	119.10
16		89.50	90.70	91.40	92.50	92.90	94.00
18		77.00	77.70	78.10	78.80	79.20	79.90
		BASE PRICES OF COPPER, PER POUND					
Size B. & S.		18c	19c	20c	21c	22c	23c
12		\$152.40	\$154.70	\$156.90	\$159.10	\$161.30	\$164.30
14		120.30	121.40	123.60	125.40	126.50	128.00
16		95.10	95.80	96.90	98.10	99.20	99.50
18		80.30	81.00	81.40	82.10	82.50	83.30

Theater or Stage Cables—Type T



Theater or stage cable consists of two stranded conductors, flexible cotton wrapped, rubber insulated, braided, twisted together with jute filler, and finished with two weatherproof braids.

		Prices per 1000 Feet					
		BASE PRICES PER POUND					
Size R. & S.		12c	13c	14c	15c	16c	17c
2		\$445.00	\$460.00	\$475.00	\$490.00	\$505.00	\$525.00
3		383.00	393.00	405.00	420.00	430.00	443.00
4		330.50	340.50	350.80	360.00	369.80	379.50
6		251.50	257.80	264.30	270.30	276.50	282.50
8		172.50	176.80	180.50	184.50	188.30	192.50
10		134.80	137.00	139.50	141.80	144.50	147.00
12		108.30	109.80	111.80	113.30	114.80	116.30
14		88.30	89.00	90.00	90.80	92.00	93.00
		BASE PRICES PER POUND					
Size R. & S.		18c	19c	20c	21c	22c	23c
2		\$540.00	\$555.00	\$570.00	\$588.00	\$603.00	\$618.00
3		453.00	468.00	480.00	495.00	505.00	518.00
4		389.80	399.50	409.30	419.00	429.00	439.30
6		289.30	295.80	301.80	308.00	314.50	320.80
8		196.30	200.00	204.00	207.80	212.00	215.80
10		149.30	152.00	154.50	157.30	159.50	162.00
12		118.00	119.50	121.00	122.50	124.00	126.00
14		93.80	94.50	96.00	97.30	98.00	99.00

Border Light Cables—Type B



Border light cable is exactly the same as theater or stage cable, but consists of more than two conductors.

		Prices per 1000 Feet					
		BASE PRICES PER POUND					
Size B. & S.		12c	13c	14c	15c	16c	17c
12-3 Cond.		\$162.40	\$164.60	\$167.60	\$169.90	\$172.10	\$174.40
12-4 "		216.50	219.50	223.50	226.50	229.50	232.50
12-5 "		270.60	274.40	279.40	283.10	286.90	290.60
12-6 "		324.80	329.30	335.30	339.80	344.30	348.80
14-3 "		132.40	133.50	135.00	136.10	138.00	139.50
14-4 "		176.50	178.00	180.00	181.50	184.00	186.00
14-5 "		220.60	222.50	225.00	226.90	230.00	232.50
14-6 "		264.80	267.00	270.00	272.30	276.00	279.00
		BASE PRICES PER POUND					
Size B. & S.		18c	19c	20c	21c	22c	23c
12-3 Cond.		\$177.00	\$179.30	\$181.50	\$183.80	\$186.00	\$189.00
12-4 "		236.00	239.00	242.00	245.00	248.00	252.00
12-5 "		295.00	298.80	302.50	306.30	310.00	315.00
12-6 "		354.00	358.50	363.00	367.50	372.00	378.00
14-3 "		140.60	141.80	144.00	145.90	147.00	148.50
14-4 "		187.50	189.00	192.00	194.50	196.00	198.00
14-5 "		234.40	236.30	240.00	243.10	245.00	247.50
14-6 "		281.30	283.50	288.00	291.80	294.00	297.00

Moving Picture Machine Cord



For motion picture machines and places where asbestos insulation is desirable. Flexible conductor, with one cotton braid and one braid of asbestos yarn covered with flame-proof paint. Furnished in single conductor only.

Size B. & S.	No. of Wires	Diameter of Each Wire Inches	Approx. Wt., Lbs. 1000 Feet	Price per 1000 Feet
4	49	.0291	188	\$100.00
6	49	.0231	130	76.00
8	49	.0183	80	60.00
10	32	.0179	55	50.00
12	32	.0142	41	36.00
14	26	.0126	30	24.00



Type C Twisted Lamp Cord

National Electrical Code Standard 0-600 Volts



Each conductor is insulated with hard glazed braid cotton or silk twisted together to form a pair. Nos. 12 and 14, $\frac{3}{4}$ -inch rubber insulation; other sizes $\frac{1}{2}$ -inch rubber insulation. For pendent lamps.

Cotton Covered

Prices per 1000 Feet

Size B. & S.	14c	15c	16c	17c	18c	19c
14	\$73.85	\$74.90	\$75.95	\$77.00	\$78.05	\$79.19
16	44.65	45.30	45.95	46.60	47.25	47.90
18	37.30	37.70	38.10	38.50	38.90	39.30
*20	31.85	32.10	32.35	32.60	32.85	33.10
*22	29.00	29.20	29.40	29.60	29.80	30.00

BASE PRICES OF COPPER, PER POUND

Size B. & S.	20c	21c	22c	23c	24c	25c
14	\$80.15	\$81.20	\$82.25	\$83.30	\$84.35	\$85.40
16	48.55	49.20	49.85	50.50	51.15	51.80
18	39.70	40.10	40.50	40.90	41.30	41.70
*20	33.35	33.60	33.85	34.10	34.35	34.60
*22	30.20	30.40	30.60	30.80	31.00	31.20

Silk Covered

Prices per 1000 Feet

Size B. & S.	14c	15c	16c	17c	18c	19c
14	\$106.85	\$107.90	\$108.95	\$110.00	\$111.05	\$112.10
16	68.05	68.70	69.35	70.00	70.65	71.30
18	59.20	59.60	60.00	60.40	60.80	61.20
*20	51.65	51.90	52.15	52.40	52.65	52.90
*22	48.20	48.40	48.60	48.80	49.00	49.20

BASE PRICES OF COPPER, PER POUND

Size B. & S.	20c	21c	22c	23c	24c	25c
14	\$113.15	\$114.20	\$115.25	\$116.30	\$117.35	\$118.40
16	71.95	72.60	73.25	73.90	74.55	75.20
18	61.60	62.00	62.40	62.80	63.20	63.60
*20	53.15	53.40	53.65	53.90	54.15	54.40
*22	49.40	49.60	49.80	50.00	50.20	50.40

*These sizes do not bear Underwriters' tags.

Single conductor lamp cord, one-half the price of twisted.

Type PO Parallel Lamp Cord

National Electrical Code Standard 0-600 Volts



Type PO parallel lamp cord is the same as Type C, except that the conductors are laid parallel. Covered over all with silk or cotton braid. Use same list price as given for Type C.

Type P Re-enforced Portable Cord

National Electrical Code Standard 0-600 Volts



Type P re-enforced cord twisted like Type C, cotton finish, insulated with supplementary belt of rubber $\frac{1}{4}$ inch thick, finished with hard glazed cotton braid over all for portables.

Prices per 1000 Feet—Dry or Saturated

Size B. & S.	14c	15c	16c	17c	18c	19c
14	\$114.55	\$115.60	\$116.65	\$117.70	\$118.75	\$119.80
16	72.25	72.90	73.55	74.20	74.85	75.50
18	64.10	64.50	64.90	65.30	65.70	66.10
*20	56.35	56.60	56.85	57.10	57.35	57.60

BASE PRICES OF COPPER, PER POUND

Size B. & S.	20c	21c	22c	23c	24c	25c
14	\$120.85	\$121.90	\$122.95	\$124.00	\$125.05	\$126.10
16	76.15	76.80	77.45	78.10	78.75	79.40
18	66.50	66.90	67.30	67.70	68.10	68.50
*20	57.85	58.10	58.35	58.60	58.85	59.10

*This size does not bear Underwriters' tag.

Type PWP Weatherproof Re-enforced Cord

National Electrical Code Standard 0-600 Volts



Type PWP same as Type P, with saturated weatherproof and wax braid. Use same list prices as given for Type P.

Type PS Re-enforced Cord

National Electrical Code Standard 0-600 Volts



Same as Type P, with either hard glazed cotton or silk braid over all, excepting that the individual conductors are insulated with best $\frac{1}{4}$ -inch rubber. For Portables, dwellings, offices.

Cotton Covered

Prices per 100 Feet

Size B. & S.	14c	15c	16c	17c	18c	19c
*14	\$68.35	\$69.40	\$70.45	\$71.50	\$72.55	\$73.60
16	53.35	54.00	54.65	55.30	55.95	56.60
18	45.30	45.70	46.10	46.50	46.90	47.30
*20	39.15	39.40	39.65	39.90	40.15	40.40

Size B. & S.	20c	21c	22c	23c	24c	25c
*14	\$74.65	\$75.70	\$76.75	\$77.80	\$78.85	\$79.90
16	57.25	57.90	58.55	59.20	59.85	60.50
18	47.70	48.10	48.50	48.90	49.30	49.70
*20	40.65	40.90	41.15	41.40	41.65	41.90

Silk Covered

Prices per 1000 Feet

Size B. & S.	14c	15c	16c	17c	18c	19c
*14	\$100.75	\$101.80	\$102.85	\$103.90	\$104.95	\$106.00
16	80.45	81.10	81.75	82.40	83.05	83.70
18	70.70	71.10	71.50	71.90	72.30	72.70
*20	62.95	63.20	63.45	63.70	63.95	64.20

Size B. & S.	20c	21c	22c	23c	24c	25c
*14	\$107.05	\$108.10	\$109.15	\$110.20	\$111.25	\$112.30
16	84.35	85.00	85.65	86.30	86.95	87.60
18	73.10	73.50	73.90	74.30	74.70	75.10
*20	64.45	64.70	64.95	65.20	65.45	65.70

*These sizes do not bear Underwriters' tags.

Asbestos Heater Cord



STYLE A.—Composed of soft annealed copper wire, fine strands braided together, insulated with high grade seamless rubber, each conductor asbestos covered and then braided with glazed cotton.

Conductors are twisted and braided over all.

Carried in sizes 18 to 10 B. & S. gauge, colors gray or black.



STYLE C.—Composed of soft annealed copper wire, fine strands braided together, insulated with high grade seamless rubber, each conductor asbestos covered and then braided with glazed cotton.

Conductors braided, then twisted.

Carried in sizes 18-16-14 B. & S. gauge, colors gray or black.



STYLE D.—Composed of soft annealed copper wire, fine strands braided together insulated with high grade seamless rubber, each conductor asbestos covered and then braided with glazed cotton.

Conductors are laid parallel under one braid.

Carried in sizes 18-16 B. & S. gauge, colors red and black mixed.

Prices upon application.



Deltabeston Stove Wire Solid Conductor



This wire is recommended for the wiring of electric stoves and ranges, in and around ovens, in boiler rooms and similar places where excessive moisture is not present. Standard finish is white but black finish can be supplied at same price, if so desired.

Size B. & S.	Diam. Overall In.	Standard Length of Coils, Ft.	Wt., Lbs. per 1000 Ft.
6	0.322	250	113
8	0.268	250	75
10	0.242	500	52
12	0.221	500	38
14	0.204	500	29
16	0.191	500	22
18	0.180	500	18

Deltabeston Heater Cord Two Conductor, Stranded



Style A, with Asbestos Braid Overall

Size B. & S.	Diam. Overall In.	Wt., Lbs. per 1000 Ft.
12	0.399	87
14	0.359	67
16	0.323	52
18	0.299	41

Style D, with Glazed Cotton Braid on Each Conductor

Size B. & S.	Diam. Overall In.	Wt., Lbs. per 1000 Ft.
12	0.364	63
14	0.324	45
16	0.288	33
18	0.264	24

Style C, with Glazed Cotton Braid Overall

Size B. & S.	Diam. Overall In.	Wt., Lbs. per 1000 Ft.
12	0.334	62
14	0.294	44
16	0.258	32
18	0.234	23

Style E, with Glazed Cotton Braid on Each Conductor and Glazed Cotton Braid Overall

Size B. & S.	Diam. Overall In.	Wt., Lbs. per 1000 Ft.
12	0.390	68
14	0.352	49
16	0.312	35
18	0.282	26

Standard length of above. 250 feet. Furnished on spools.

Two Conductor, Braided

Styles A, C, D and E heater cord can be furnished with braided conductor instead of stranded conductor at an increase in price of 15 per cent. The braided conductor is made by braiding 34 B. & S. gauge copper wires instead of stranding 30 B. & S. gauge copper wires as in the stranded conductor. Where the cord is subjected to excessive bending this will be found to prolong the life of conductor.

Deltabeston Moving Picture Machine Cable—Standard Stranded Conductor

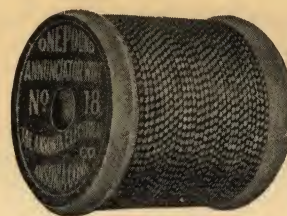


Size B. & S.	Stranding B. & S.	Diam. Overall In.	Standard Length	Wt., Lbs. per 1000 Ft.
00	133-20	0.690	250-ft. Reels	562
0	133-21	0.635	250 " "	459
1	133-22	0.590	500 " "	377
2	133-23	0.515	500 " "	296
4	84-23	0.455	500 " "	204
6	84-25	0.395	250 " Coils	142
8	52-25	0.310	250 " "	90
10	65-28	0.270	500 " "	64
12	66-30	0.250	500 " "	49
14	41-30	0.230	500 " "	38

Moving Picture Machine Cable—Special Extra Flexible Stranded Conductor

Where extreme flexibility is desired cable similar to the standard described above but having an extra flexible conductor is recommended. Data is given below on sizes 2, 4 and 6 B. & S. of this construction. Prices and data on other sizes furnished upon application.

Size B. & S.	Stranding B. & S.	Diam. Overall In.	Standard Length	Wt., Lbs. per 1000 Ft.
2	2695-36	0.515	500-ft. Reels	296
4	1715-36	0.455	500 " "	204
6	1078-36	0.395	250 " Coils	142



Annunciator Wire

In 1/2 and 1-lb. coils and spools of approximately 7 lbs.

Size B. & S.	Approx. Wt. Lbs. per 1000 Ft.	Approx. Ft. per Pound
14	15	66.6
16	9.5	105.0
18	6.5	153.8
20	4.5	222.2

Damp-proof Office Wire



In ordering, specify whether single, duplex or twisted pair is desired. Cases contain approximately 200 pounds.

Size B. & S.	Approx. Wt. Lbs. per 1000 Ft.	Approx. Ft. per Pound	Size B. & S.	Approx. Wt. Lbs. per 1000 Ft.	Approx. Ft. per Pound
12	34	29.4	18	10	100
14	24	41.7	20	8	125
16	13.5	74.0			

Office Annunciator Cable



These cables are for interior use under conditions of perfect dryness, as found in office buildings, hotels, etc.

They are made up of any number of No. 18 plain paraffined annunciator wires, cabled singly or in twisted pairs and color coded; that is, each conductor is insulated with a different color. The cable is protected with a heavy outside braid, thoroughly saturated in paraffine and polished.

Weights per 1000 Feet

No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.
3	25	9	68	15	110
4	33	10	75	16	117
5	40	11	83	17	123
6	48	12	90	18	130
7	54	13	96	19	137
8	61	14	103	20	143

Prices upon application.

Elevator Annunciator Cable



This type of cable is designed for connecting the annunciator in an elevator car with the signal push buttons on different floors.

Each conductor is composed of 16 strands of No. 30 soft copper wire (equivalent to No. 18B. & S. Gauge), twisted together and insulated with two wrappings of cotton wound in reverse directions and one cotton braid. These insulated conductors are cabled around a stout core of jute, which gives extra tensile strength and increased flexibility, and the whole is covered with two outside braids of cotton.

This is a dry cable—no saturation.

Weights per 1000 Feet

No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.	No. of Cond.	Wt. Lbs.
4	40	10	94	16	160
5	54	11	104	17	168
6	60	12	114	18	152
7	67	13	125	20	168
8	74	14	139	22	178
9	84	15	149	24	204

Prices upon application.

**O. K. Solid Weather proof Wire**

This wire is insulated with three close cotton braids, all thoroughly saturated with O. K. Weather-proof Compound. The outer braid is smoothly polished.

Size B. & S.	Underwriters' Approved Carrying Capacity Amperes	APPROX. Per 1000 Ft.	Wt., Lbs. Per Mile	Approx. Diam., In. Over Insulation	PUT UP FOR SHIPMENT REELS		
					Diam. Reels Inches	Approx. Length Feet	Approx. Weight Pounds
0000	325	767	4050	$\frac{25}{32}$	45	2500	1920
000	275	629	3320	$\frac{47}{64}$	40	3000	1890
00	225	502	2650	$\frac{39}{64}$	40	3500	1760
0	200	407	2150	$\frac{9}{16}$	40	4000	1630
1	150	316	1670	$\frac{1}{2}$	28	800	250
2	125	260	1370	$\frac{15}{32}$	28	1000	260
3	100	199	1050	$\frac{3}{8}$	28	1250	250
4	90	164	865	$\frac{25}{64}$	28	1600	260
5	80	135	710	$\frac{11}{32}$	28	2000	270
6	70	112	590	$\frac{3}{8}$	28	2500	280
8	50	75	395	$\frac{17}{64}$	28	4000	300
10	30	53	280	$\frac{1}{4}$	28	6400	340

Sizes 1, 2, 3 and 4 also put up in coils of approximately 130 pounds. Sizes 5 and 6, 140 pounds. Sizes 8 and 10, 160 pounds.

Size B. & S.	Underwriters' Approved Carrying Capacity Amperes	APPROX. Per 1000 Ft.	Wt., Lbs. Per Mile	Approx. Diam., In. Over Insulation	PUT UP FOR SHIPMENT BUNDLES CONTAINING APPROX. 100 Lbs.		
					No. Coils	Wt., Lbs.	
8	50	75	395	$\frac{17}{64}$	4	25	
10	30	53	280	$\frac{1}{4}$	4	25	
12	25	35	185	$\frac{3}{8}$	4	25	
14	20	25	130	$\frac{3}{16}$	4	25	
16	10	14	75	$\frac{5}{16}$	6	17	
18	5	11	58	$\frac{1}{8}$	6	17	

Prices quoted upon application.

O. K. Stranded Weather-proof Wire

This wire is insulated with three close cotton braids, all thoroughly saturated with O. K. Weather-proof Compound. The outer braid is smoothly polished.

Size Circular Mils	Underwriters' Approved Carrying Capacity Amperes	APPROX. Per 1000 Ft.	Wt., Lbs. Per Mile	Approx. No. of ft. per Reel	Approx. Diam., In. Over Insulation	CONCENTRIC STRANDS		
						Number Wires	Diam. Each	
1000000	1000	3675	19400	900	$\frac{121}{32}$	61	.128	
900000	920	3330	17600	1000	$\frac{139}{64}$	61	.121	
800000	840	3000	15800	1000	$\frac{19}{16}$	61	.115	
700000	760	2650	14000	1200	$\frac{15}{16}$	61	.107	
600000	680	2235	11800	1500	$\frac{121}{64}$	61	.099	
500000	600	1900	10000	1800	$\frac{11}{4}$	37	.116	
450000	550	1725	9100	1300	$\frac{13}{16}$	37	.110	
400000	500	1550	8200	1500	$\frac{19}{64}$	37	.104	
350000	450	1345	7100	1800	1	27	.114	
300000	400	1175	6200	2000	$\frac{31}{32}$	27	.105	
250000	350	985	5200	2500	$\frac{33}{32}$	19	.115	
0000	325	800	4220	2500	$\frac{55}{64}$	19	.106	
000	275	653	3450	3000	$\frac{64}{64}$	12	.118	
00	225	522	2760	3500	$\frac{43}{64}$	12	.105	
0	200	424	2240	4000	$\frac{39}{64}$	7	.123	
1	150	328	1735	800	$\frac{35}{64}$	7	.109	
2	125	270	1425	1000	$\frac{33}{64}$	7	.097	
3	100	206	1090	1200	$\frac{65}{64}$	7	.087	
4	90	170	900	1500	$\frac{7}{16}$	7	.077	
5	80	140	740	2000	$\frac{3}{8}$	7	.069	
6	70	115	610	2500	$\frac{13}{32}$	7	.061	
8	50	78	410	3500	$\frac{9}{32}$	7	.049	

Prices quoted upon application.

O. K. Solid Slow Burning Wire

This wire has three close braids of cotton, all saturated with a white fire-proof compound. The compound used on the outer braid becomes hard, but the wire still retains its flexibility. As this insulation does not deteriorate in a continued high temperature, it is especially suitable for engine and boiler rooms, furnaces and foundries.

Size B. & S.	APPROX. Per 1000 Ft.	Wt., Lbs. Per Mile	Approx. Diam., In. Over Insulation	PUT UP FOR SHIPMENT REELS		
				Diam. Reels Inches	Approx. Length Feet	Approx. Weight Pound
0000	925	4890	$\frac{3}{4}$	45	2500	2310
000	760	4020	$\frac{45}{64}$	40	3000	2280
00	600	3170	$\frac{37}{64}$	40	3500	2100
0	495	2610	$\frac{17}{32}$	40	4000	1980
0000	925	4890	$\frac{3}{4}$	28	325	300
000	760	4020	$\frac{45}{64}$	28	400	300
00	600	3170	$\frac{37}{64}$	28	500	300
0	495	2610	$\frac{17}{32}$	28	625	310
1	365	1930	$\frac{13}{32}$	28	800	290
2	320	1690	$\frac{7}{16}$	28	1000	320
3	270	1425	$\frac{13}{32}$	28	1250	340
4	220	1160	$\frac{3}{8}$	28	1600	350
5	190	1000	$\frac{11}{32}$	28	2000	380
6	160	845	$\frac{9}{16}$	28	2500	400

Size B. & S.	APPROX. Per 1000 Ft.	Wt., Lbs. Per Mile	Approx. Diam., In. Over Insulation	PUT UP FOR SHIPMENT CASES CONTAINING APPROX. 200 LBS.		
				No. Coils	Wt., Lbs.	
8	100	530	$\frac{17}{64}$	8	25	
10	80	420	$\frac{1}{4}$	8	25	
12	55	290	$\frac{3}{8}$	8	25	
14	40	210	$\frac{3}{16}$	8	25	
16	18	95	$\frac{5}{32}$	12	17	
18	14	75	$\frac{1}{8}$	12	17	

Prices quoted upon application.

O. K. Stranded Slow Burning Wire

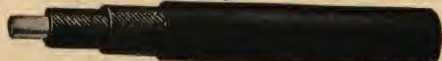
This wire has three close braids of cotton, all saturated with a white fire-proof compound. The compound used on the outer braid becomes hard, but the wire still retains its flexibility. As this insulation does not deteriorate in a continued high temperature, it is especially suitable for engine and boiler rooms, furnaces and foundries.

Size Circular Mils	APPROX. Per 1000 Ft.	Wt., Lbs. Per Mile	Approx. No. of ft. per Reel	Approx. Diam., In. Over Insulation	CONCENTRIC STRANDS		
					Number Wires	Diam. Each	
1000000	3980	21000	900	$\frac{129}{64}$	61	.128	
900000	3640	19200	1000	$\frac{19}{16}$	61	.121	
800000	3280	17300	1000	$\frac{23}{64}$	61	.115	
700000	2920	15400	1200	$\frac{127}{64}$	61	.107	
600000	2460	13000	1500	$\frac{19}{32}$	61	.099	
500000	2080	11000	1800	$\frac{133}{64}$	37	.116	
450000	1900	10000	1300	$\frac{9}{64}$	37	.110	
400000	1700	9000	1500	$\frac{137}{32}$	37	.104	
350000	1500	7900	1800	$\frac{21}{32}$	27	.114	
300000	1310	6900	2000	$\frac{157}{64}$	27	.105	
250000	1120	5900	2500	$\frac{7}{8}$	19	.115	
0000	960	5070	2500	$\frac{53}{64}$	19	.106	
000	785	4150	3000	$\frac{64}{64}$	12	.118	
00	625	3300	3500	$\frac{41}{64}$	12	.105	
0	510	2700	4000	$\frac{37}{64}$	7	.123	
1	380	2000	800	$\frac{33}{64}$	7	.109	
2	335	1770	1000	$\frac{31}{64}$	7	.097	
3	280	1480	1200	$\frac{59}{64}$	7	.087	
4	230	1220	1500	$\frac{61}{64}$	7	.077	
5	195	1030	2000	$\frac{31}{32}$	7	.069	
6	165	870	2500	$\frac{11}{32}$	7	.061	
8	105	555	3500	$\frac{9}{32}$	7	.049	

Prices quoted upon application.



O. K. Weather-proof Iron Wire



Size B. W. G.	Length Coils Miles	APPROX. WT. LBS. PER MILE		Size B. W. G.	Length Coils Miles	APPROX. WT. LBS. PER MILE	
		Dbl. Brd.	Triple Brd.			Dbl. Brd.	Triple Brd.
8	1/4	470	520	12	1/2	230	260
9	1/3	400	450	14	1/2	150	175
10	1/2	350	400	..	..	...	...

O. K. Weather-proof Telephone Wire



Size B. & S.	approx Wt. Lbs. per 1000 Ft.	CASES OF APPROX. 200 POUNDS		Size B. & S.	Approx. Wt. Lbs. per 1000 Ft.	CASES OF APPROX. 200 POUNDS	
		No. Coils	Lbs., Each			No. Coils	Lbs., Each
14	53	16	12	18	23	16	12
16	32	16	12	19	20	16	12

O. K. Weatherproof Hard Drawn Copper Wire
Triple Braid

Size B. & S.	Capacity Cir. Mils	Wt., Lbs. per Mile Coil	Length, Miles	Size B. & S.	Capacity Cir. Mils	Wt., Lbs. per Mile Coil	Length, Miles
8	16510	395	1/2	12	6530	185	1/2
9	13094	325	1/2	14	4107	130	1/2
10	10382	280	1/2	..	....	...	..

Hard Drawn Copper
Trolley Wire

Round



Grooved

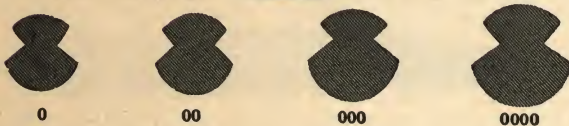
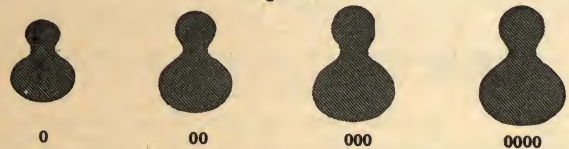


Figure 8



Hard drawn trolley wire is furnished in any of the standard styles, round, grooved, or figure eight.

Trolley wire furnished in sizes 4/0-1/0 inclusive put up on 40-inch reels containing approximately 2000 pounds each or on 32-inch reels containing approximately 1000 pounds each.

The cross sections of the various styles and sizes are shown herewith.

Size B. & S.	Circular Mils	Pounds per Mile	Size B. & S.	Circular Mils	Pounds per Mile
0000	211600	3382	00	133100	2127
000	167800	2682	0	105500	1687

Prices quoted upon application.

Twisted Pair Telephone Wire
Flame Proof or Jumper Proof

Conductors are soft drawn tinned copper rubber insulated, braided and twisted, one conductor white cotton, one conductor red cotton and then saturated with flame proof compound. Furnished in sizes 19, 20 and 22 B. & S. gauge.

Prices quoted upon application.

Solid Bare Copper Wire
Annealed or Hard Drawn

Size B. & S.	Diam. Inches	Cap. C. M.	WEIGHT. POUNDS		Approx. Wt. of Coils, Lbs.
			Per 1000 Ft.	Per Mile	
0000	.460	211600	640.5	3382	200
000	.410	167800	507.9	2682	200
00	.365	133100	402.8	2127	200
0	.325	105500	319.5	1687	200
1	.289	83690	253.3	1337	200
2	.258	66370	200.9	1061	200
3	.229	52640	159.3	841	200
4	.204	41740	126.4	667	200
5	.182	33100	100.2	529	200
6	.162	26250	79.46	420	200
7	.144	20820	63.02	333	200
8	.128	16510	49.98	264	200
9	.114	13090	39.63	209	200
10	.102	10380	31.43	166	200
11	.091	8234	24.92	132	200
12	.081	6530	19.77	104	200
13	.072	5178	15.68	83	200
14	.064	4107	12.43	66	200
15	.057	3257	9.86	52	200
16	.051	2583	7.82	41	100
17	.045	2048	6.2	33	100
18	.040	1624	4.92	26	100
19	.036	1288	3.90	21	50
20	.032	1022	3.09	16	50

Prices quoted upon application.

Stranded Bare Copper Wire

Annealed or Hard Drawn



Size Circular Mils	WEIGHT		REGULAR STYLE OF STRANDING		Diam. Strand Mils
	Per 1000 Ft.	Per Mile	No. Wires	Diam. Each	
2000000	6180	32630	91	.148	1630
1750000	5403	28530	91	.139	1526
1500000	4630	24450	91	.128	1412
1250000	3859	20380	91	.117	1289
1000000	3090	16320	61	.128	1152
950000	2930	15470	61	.125	1123
900000	2780	14680	61	.121	1094
850000	2620	13830	61	.118	1062
800000	2470	13040	61	.115	1031
750000	2320	12250	61	.111	998
700000	2160	11410	61	.107	964
650000	2010	10610	61	.103	929
600000	1850	9768	61	.099	893
550000	1700	8976	61	.095	855
500000	1540	8131	37	.116	813
450000	1390	7339	37	.110	772
400000	1240	6547	37	.104	728
350000	1080	5702	27	.114	701
300000	926	4889	27	.105	649
250000	772	4076	19	.115	574

Size B. & S.	WEIGHT		REGULAR STYLE OF STRANDING		Diam. of Strand Mils
	Per 1000 Ft.	Per Mile	No. Wires	Diam. Each	
0000	653	3448	19	.105	528
000	518	2735	12	.118	491
00	411	2170	12	.105	438
0	326	1721	7	.123	368
1	258	1362	7	.1093	328
2	205	1082	7	.0974	292
3	163	861	7	.0867	260
4	129	681	7	.0772	232
5	102	539	7	.0688	206
6	81	428	7	.0612	184
8	51	269	7	.0486	146
10	32	169	7	.0385	116
12	20	106	7	.0305	91.5
14	13	69	7	.0242	72.6
16	8	42	7	.0192	57.6
18	5	26	7	.0152	45.6

Prices quoted upon application.



Extra Galvanized Telephone and Telegraph Wire



Fig. 2653

Extra Best Best (E. B. B.), stands highest in conductivity, with a weight per mile ohm of from 4700 to 5000 pounds, largely used by telegraph service.

Best Best (B. B.), is superior to the E. B. B. in mechanical qualities and equal in galvanizing, but of somewhat lower electrical value. Weight, per mile ohm, 5600 to 6000 pounds. Used largely by telephone companies.

Steel (or homogeneous metal), is designed for short line telephone service, where a measure of conductivity can be exchanged for high tensile strength in a light wire. Weight, per mile ohm, 6500 to 7000 pounds.

Size B. & S. G.	Diam. Inches	Area C. M.	APPROX. WT., LBS.		APPROX. BREAKING STRAIN, LBS		
			Per 1000 Ft.	Per Mile	Extra B. B.	B. B.	Steel
4	.238	56644	153	811	2028	2271	2433
6	.203	41209	112	590	1475	1652	1770
8	.165	27225	74	390	975	1092	1170
9	.148	21904	60	314	785	879	942
10	.134	17956	49	258	645	722	774
12	.109	11881	32	170	425	476	510
14	.083	6889	19	99	247	277	297

Prices quoted upon application.

Nichrome Resistance Wire

Nichrome is the name of the original D-H Nickel-Chromium resistance alloy. This alloy resists oxidation and is practically non-corrosive. Its field is in electric heating devices up to 1000° C., for rheostats operating under severe fume conditions or where the resistance element must of necessity be confined in a small space, and for other applications where high resistance is desired. Nichrome is recognized as the standard resistance material for cord-attached domestic appliances. Nichrome has a high specific resistance and also a high temperature coefficient.

Size B. & S. In.	Diam. In.	Area C. M.	Ohms Wt., Lbs.		Ft. per Lb.	Size B. & S. In.	Diam. In.	Area C. M.	Ohms Wt., Lbs.		Ft. per Lb.
			per 1000 Ft.	per 1000 Ft.					per 1000 Ft.	per 1000 Ft.	
1	.289	7.9	231.0	4.33	21	.0285	813.0	2.24	446.0		
2	.258	6.6	184.0	5.43	22	.0254	1031.0	1.77	565.0		
3	.229	5.5	145.0	6.90	23	.0226	1292.0	1.41	709.0		
4	.204	4.7	115.0	8.70	24	.0201	1634.0	1.12	893.0		
5	.182	4.2	92.0	10.9	25	.0179	2060.0	0.89	1123.0		
6	.162	3.8	73.0	13.7	26	.0159	2611.0	0.70	1429.0		
7	.144	3.4	57.0	17.5	27	.0142	3274.0	0.56	1786.0		
8	.1285	3.0	45.0	22.2	28	.0126	4159.0	0.44	2273.0		
9	.114	2.7	36.0	27.8	29	.0113	5168.0	0.35	2857.0		
10	.102	2.4	29.0	34.5	30	.0100	6600.0	0.276	3623.0		
11	.091	2.1	23.0	43.5	31	.0089	8333.0	0.219	4566.0		
12	.081	1.9	18.0	55.6	32	.0080	10313.0	0.177	5650.0		
13	.072	1.7	14.3	69.9	33	.0071	13098.0	0.139	7194.0		
14	.064	1.5	11.3	88.5	34	.0063	16623.0	0.110	9091.0		
15	.057	1.3	9.2	109.0	35	.0056	21019.0	0.087	11490.0		
16	.051	1.2	8.2	139.0	36	.0050	26400.0	0.069	14490.0		
17	.045	1.0	6.6	179.0	37	.0045	32672.0	0.056	17860.0		
18	.040	.9	5.8	226.0	38	.0040	41240.0	0.045	22220.0		
19	.036	.8	5.1	279.0	39	.0035	54098.0	0.034	29410.0		
20	.032	.7	4.5	353.0	40	.0031	73333.0	0.025	40000.0		

Specific resistance, 660 ohms per circular mil-foot at 20° C. Temperature coefficient, 0.0002 per degree Centigrade, between 20° C. and 100° C.

Colorbeston Wire

This is a Deltabeston wire, similar to plain fixture wire, except that the finish is colored to match the standard fixture finishes.

The conductor is stranded and flexible and can be furnished in sizes from eighteen to ten inclusive.

The color of the finish may be either white, cream, gray, old brass, bronze or black.

Prices upon application.

193 Alloy Resistance Wire

This alloy serves successfully in low temperature air heaters, and makes good elevator controllers and rheostat resistances. The upper limit is 1200° F. It gives satisfaction in the finer gauges up to 30. It is a nickel-iron-chromium alloy with much the same characteristics as Climax but is more resistant to oxidation and rusting and gives longer service. 193 Alloy is made in the form of wire and ribbon.

Size B. & S. In.	Diam. In.	Area C. M.	Ohms Wt., Lbs.		Ft. per Lb.	Size B. & S. In.	Diam. In.	Area C. M.	Ohms Wt., Lbs.		Ft. per Lb.
			per 1000 Ft.	per 1000 Ft.					per 1000 Ft.	per 1000 Ft.	
1	.289	6.6	.029	231	16	.051	211.5	29.4	7.2		
2	.258	5.5	.045	184	17	.045	271.6	48.5	5.6		
3	.229	4.7	.072	145	18	.040	343.8	77.8	4.42		
4	.204	4.2	.115	115	19	.036	424.8	119	3.58		
5	.182	3.8	.180	92	20	.032	537.2	190	2.83		
6	.162	3.4	.288	73	21	.0285	677.3	302	2.24		
7	.144	3.0	.465	57	22	.0253	852.6	482	1.77		
8	.128	2.7	.735	45	23	.0226	1077.0	763	1.41		
9	.114	2.4	1.18	36	24	.0201	1362.0	1218	1.12		
10	.102	2.1	1.82	29	25	.0179	1717.0	1930	0.89		
11	.091	1.9	2.88	23	26	.0159	2176.0	3110	0.70		
12	.081	1.7	4.67	18	27	.0142	2729.0	4880	0.56		
13	.072	1.5	7.44	14.3	28	.0126	3465.0	7880	0.44		
14	.064	1.3	11.9	11.3	29	.0113	4308.0	12330	0.35		
15	.057	1.1	18.4	9.2	30	.010	5500.0	20000	0.275		

Specific electrical resistance, 550 ohms per circular mill foot at 75° F. (24° C.).

Temperature coefficient of electrical resistivity, 0.0008 per degree Centigrade (20° C.—100° C.).

Coefficient of Linear expansion, 0.0000171 per degree Centigrade.

Specific gravity, 8.15. Weight per cubic inch, .29 pound.

Prices quoted upon application.

18% Nickel Silver Resistance Wire

Size B. & S. In.	Diam. In.	Area C. M.	Ohms Wt., Lbs.		Ft. per Lb.	Size B. & S. In.	Diam. In.	Area C. M.	Ohms Wt., Lbs.		Ft. per Lb.
			per 1000 Ft.	per 1000 Ft.					per 1000 Ft.	per 1000 Ft.	
0	.325	1.70	.00563	302	21	.0285	221.6	95.4	2.32		
1	.289	1.5	.00903	239	22	.0253	281.2	154.0	1.83		
2	.258	1.3	.014	190	23	.0226	352.4	241.0	1.46		
3	.229	1.1	.0229	150	24	.0201	445.6	388.0	1.15		
4	.204	1.0	.0363	119	25	.0179	561.8	618.0	.91		
5	.182	.9	.057	95	26	.0159	712.0	988.0	.72		
6	.162	.8	.095	72	27	.0142	892.8	1538.0	.58		
7	.144	.7	.147	59	28	.0126	1133.0	2470.0	.46		
8	.128	.6	.236	47	29	.0113	1409.0	3860.0	.365		
9	.114	.5	.368	37.6	30	.010	1800	6290.0	.286		
10	.102	.4	.693	29.2	31	.0089	2273	10050.0	.226		
11	.091	.3	.918	23.7	32	.008	2813	15350.0	.183		
12	.081	.2	1.46	18.8	33	.0071	3572	24800.0	.144		
13	.072	.1	2.35	14.8	34	.0063	4534	40000.0	.113		
14	.064	.1	3.76	11.7	35	.0056	5733	63700.0	.090		
15	.057	.1	5.96	9.3	36	.005	7200	101500.0	.071		
16	.051	.1	9.28	7.45	37	.0045	8910	153500.0	.058		
17	.045	.1	15.5	5.73	38	.004	11250	245000.0	.046		
18	.040	.1	24.6	4.57	39	.0035	14750	422500.0	.035		
19	.036	.1	37.6	3.7	40	.003	20000	770000.0	.026		
20	.032	.1	60.0	2.93							

Resistance per mil-foot, 180 ohms, at 75° F. (24° C.).

Temperature coefficient, .00027 per degree F. Specific gravity, 8.5. Weight per cubic inch, .307 pound.

The composition commonly known as Nickel Silver is that containing 18 per cent of nickel. Its resistance varies somewhat in different lots, according to temper, and is approximately 19 times that of copper.

Thirty per cent nickel silver wire has a resistance approximately 28 times that of copper.

Prices quoted upon application.



Round Magnet Wire

Size B. & S. Wire No.	Single Cotton Covered			Double Cotton Covered		
	Diam. Bare In.	Thickness of Ins. In.	Diam. Over All In.	Thickness of Ins. In.	Diam. Over All In.	Ft. per Lb.
1	.2893	.009	.2983	.3	.3073	3.88
2	.2576	.009	.2666	.4	.2756	4.9
3	.2294	.009	.2384	.6	.2474	6.17
4	.2043	.009	.2133	.7	.2223	7.81
5	.1819	.009	.1909	.8	.1959	9.84
6	.1620	.009	.1700	12	.1760	12.37
7	.1443	.009	.1523	15	.1583	15.58
8	.1285	.009	.1375	19	.1425	19.6
9	.1144	.006	.1204	24	.1264	24.71
10	.1019	.006	.1079	31	.1119	31.07
11	.0907	.006	.0967	39	.1007	39.12
12	.0808	.005	.0858	49	.0908	49.12
13	.0720	.005	.0770	62	.0820	62.00
14	.0641	.005	.0691	78	.0731	77.86
15	.0571	.005	.0621	99	.0661	97.80
16	.0508	.005	.0558	125	.0598	122.91
17	.0452	.005	.0502	157	.0542	154.04
18	.0403	.005	.0453	198	.0493	193.64
19	.0359	.005	.0409	249	.0449	233.16
20	.032	.005	.0370	313	.0410	303.
21	.0285	.005	.0335	394	.0375	379.
22	.0253	.0045	.0298	493	.0343	471.
23	.0226	.0045	.0271	618	.0316	584.
24	.0201	.0045	.0246	773	.0291	726.
25	.0179	.00425	.02215	982	.0264	932.
26	.0159	.00425	.02015	1228	.0244	1149.
27	.0142	.00425	.01845	1533	.0227	1419.
28	.0126	.00425	.01685	1907	.0211	1739.
29	.0113	.00425	.01555	2365	.0198	2130.
30	.01002	.00425	.01427	2945	.01852	2606.
31	.00892	.00425	.01317	3680	.01742	3233.
32	.00795	.00425	.01220	4542	.01645	3894.
33	.00708	.00425	.01133	5569	.01558	4666.
34	.0063	.00425	.01055	6000	.01480	5477.
35	.00561	.00425	.00986	8331	.01411	6602.
36	.005	.00425	.00925	9960	.0135	7556.
37	.00445	.00425	.00870	10884	.01295	8462.
38	.00396	.00425	.00821	13536	.01246	9860.
39	.00353	.00425	.00778	16174	.01203	12052.
40	.00314	.00425	.00739	19900	.01164	14334.

Size B. & S. Wire No.	Single Silk Covered			Double Silk Covered		
	Diam. Bare In.	Thickness of Ins. In.	Diam. Over All In.	Thickness of Ins. In.	Diam. Over All In.	Ft. per Lb.
16	.0508	.002	.0528	.0035	.0543	126
17	.0452	.002	.0472	.0035	.0487	159
18	.0403	.002	.0423	.0035	.0438	199
19	.0359	.002	.0379	.0035	.0394	250
20	.032	.002	.034	.0035	.0355	314
21	.0285	.002	.0305	.0035	.032	396
22	.0253	.002	.0273	.0035	.0288	498
23	.0226	.002	.0246	.0035	.0261	626
24	.0201	.002	.0221	.0035	.0236	787
25	.0179	.002	.0199	.0035	.0214	990
26	.0159	.002	.0179	.0035	.0198	1242
27	.0142	.002	.0162	.0035	.0177	1560
28	.0126	.002	.0146	.0035	.0161	1946
29	.0113	.002	.0133	.0035	.0148	2431
30	.01002	.002	.01202	.0035	.01352	3030
31	.00892	.002	.01092	.0035	.01242	3763
32	.00795	.002	.00995	.0035	.01145	4662
33	.00708	.002	.00908	.0035	.01058	5800
34	.0063	.002	.0083	.0035	.0098	7064
35	.00561	.002	.00761	.0035	.00911	8666
36	.005	.002	.007	.0035	.0085	10832
37	.00445	.002	.00645	.0035	.00795	12149
38	.00396	.002	.00596	.0035	.00746	14776
39	.00353	.002	.00553	.0035	.00703	18369
40	.00314	.002	.00514	.0035	.00664	22052

Magnet Wire Reels and Spools

Size B. & S. No.	Kind of Cover	Reel No.	Diam. In.	Lbs. per Reel	Size B. & S. Nos.	Kind of Cover	Reel No.	Diam. In.	Lbs. per Reel
*1	.....	1	28	200	27-31	Cotton	15	5	2-5
1-14	.....	2	23	200	27-31	Silk	15	5	4-8
15-18	.....	11	13	50	32-36	Cotton	16	4	1-2 1/2
19-21	.....	13	9	25	32-36	Silk	16	4	1-5
22-26	Cotton	14	6	7-10	36-40	Cotton	17	3	1-2
21-26	Silk	14	6	8-12	37-40	Silk	17	3	1-2

*No. 1 and larger.

Square and Rectangular Magnet Wire

Increasing attention is being given to the economies to be secured by the substitution of Square or Rectangular for round magnet wire. When round wire is used, considerable space is wasted, even when turns are fitted together as closely as possible, whereas the waste spaces are filled when square or rectangular wire is used, and a greater current carrying capacity secured.

Square Magnet Wire

Square magnet wire can be furnished in all sizes from number 14 to 0000 B. & S. gauge. (In computing the gauge the diameter of round wire is comparable to the thickness of square wire). Sizes smaller than number 14 cannot be regularly procured owing to the difficulty of winding.

Rectangular Magnet Wire



Rectangular magnet wire sizes have not as yet been standardized, but generally speaking it can be supplied, in cotton insulation, in sizes from .04 x .075-inch to .2 x .5-inch. It cannot be furnished thinner than .04-inch and delivery of the larger sizes can be made more promptly than of the smaller sizes. It is necessary that a fairly large order, not less than 50 pounds of any size, should be placed, as rectangular wire is manufactured specially on customer's order. Small sizes can be supplied but only at prices high enough to reimburse the manufacturer for the extra cost.

Prices on Square and Rectangular Magnet wire will be quoted upon application.

Enameled Magnet Wire

Size B. & S. Gauge	Diameter of Bare Wire Inches	Increase Thickness of Enamel Insulation Inches	Diameter of Enamel Wire	Ohms per Pound	Weight per 1000 Feet Lbs.	Ohms per Cubic Inch	Turns per Square Inch
8	.12850	.0021	.1306	.012	50.55	.003	57
9	.11440	.0021	.1165	.020	40.15	.005	72
10	.10190	.0021	.1040	.031	31.80	.007	90
11	.09074	.0020	.0927	.050	25.25	.011	113
12	.08081	.0020	.0828	.079	20.05	.019	141
13	.07196	.0020	.0740	.125	15.90	.029	177
14	.06408	.0020	.0661	.200	12.60	.046	221
15	.05707	.0020	.0591	.318	10.00	.073	277
16	.05082	.0020	.0528	.505	7.930	.116	348
17	.04526	.0018	.0470	.805	6.275	.184	437
18	.04030	.0018	.0421	1.278	4.980	.291	548
19	.03589	.0018	.0377	2.032	3.955	.456	681
20	.03196	.0018	.0337	3.239	3.135	.720	852
21	.02846	.0017	.0302	5.138	2.490	1.134	1065
22	.02535	.0016	.0269	8.186	1.970	1.800	1340
23	.02257	.0015	.0241	12.97	1.565	2.820	1665
24	.02010	.0014	.0215	20.60	1.245	4.488	2100
25	.01790	.0013	.0192	32.70	.988	7.080	2630
26	.01594	.0012	.0171	51.95	.784	11.27	3320
27	.01420	.0011	.0153	82.55	.622	17.75	4145
28	.01264	.0010	.0136	131.2	.494	28.33	5250
29	.01126	.0009	.0122	208.7	.391	44.32	6510
30	.01003	.0008	.0109	331.5	.310	70.15	8175
31	.00893	.0008	.0097	526.5	.246	110.4	10200
32	.00795	.0007	.0087	836.5	.196	172.6	12650
33	.00708	.0007	.0077	1332.	.155	279.0	16200
34	.00630	.0006	.0069	2118.	.123	433.2	19950
35	.00561	.0006	.0062	3352.	.098	684.5	25000
36	.00500	.0005	.0055	5340.	.078	1094.	21700
37	.00445	.0005	.0049	8480.	.062	1823.	39600
38	.00396	.0004	.0044	13490.	.049	2693.	49100
39	.00353	.0004	.0039	21450.	.039	4332.	65600
40	.00314	.0004	.0035	34100.	.031	6770.	77600

Prices on application.



Deltabeston Round Magnet Wire



The insulation is pure asbestos fibre treated by a special process which removes all impurities. The asbestos is applied in an adhesive, uniform, smooth mass of approximately the same wall thickness as double cotton covered magnet wire. It is finally treated with a special compound which renders it both moisture proof and tough. Notwithstanding its toughness the insulation is so flexible that it does not crack or break even when sharp bends are made. A careful inspection of the finished wire is made which insures a perfect, uniformly insulated product.

Standard color of finish is black, but white finish can be supplied at same price when customer desires to apply own compounds to wire after forming in coils.

In the manufacture of Deltabeston wire soft drawn copper of at least 98 per cent conductivity is used. Each reel is tested to satisfy the manufacturer's rigid specifications for uniformity of diameter, elongation, tensile strength and conductivity.

Deltabeston magnet wire has exceptional heat resisting qualities, in fact it is indestructible by any temperatures to which it may be subjected in commercial service. It is unequalled for use in the manufacture and repair of coils for railway, mining and mill type motors, electric locomotive headlights, lifting magnets and in all other apparatus in which severe temperature rises occur.

White enamel (known as WE) finish can be supplied at a slight advance over the price of standard, Deltabeston finish. White enamel finish is desirable in damp places.

DIAM., IN.		Over Insulation (Approx.)	Lth., Ft. per Lb.	Ship. Wt., Lbs. per Reel (Approx.)	Price per Lb. Base Price 30 Cents
Size B. & S.	Bare Wire				
3/0	.4100	.429	1.950	200	\$1.05
2/0	.3650	.384	2.446	200	1.05
0	.3249	.339	3.075	200	1.05
1	.2893	.303	3.871	200	1.05
2	.2576	.272	4.864	200	1.05
3	.2294	.242	6.124	200	1.06
4	.2043	.216	7.716	200	1.08
5	.1819	.194	9.690	200	1.10
6	.1620	.174	12.18	200	1.12
7	.1443	.156	15.31	150	1.15
8	.1285	.140	19.32	150	1.20
9	.1144	.126	24.25	150	1.28
10	.1019	.112	30.37	150	1.35
11	.0907	.101	38.33	150	1.41
12	.0808	.091	48.05	150	1.48
13	.0720	.082	60.83	150	1.57
14	.0641	.074	76.28	150	1.68
15	.0571	.067	95.51	150	1.85
16	.0508	.059	119.3	125	2.19
17	.0453	.053	149.6	125	2.53
18	.0403	.048	186.7	50	2.90
19	.0359	.044	231.9	50	3.36
20	.0320	.040	288.6	50	3.86

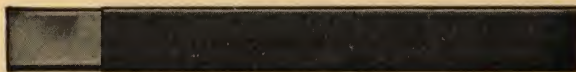
Each one cent change in base is 3 cents per pound.

Net Additions per Pound to the Net Price for Quantities Less Than Full Spool

Size B. & S.	Full Spool in Lb.	150 to 199 Lb.	125 to 149 Lb.	50 to 124 Lb.	25 to 49 Lb.	5 to 24 Lb.	1.5 to 4.9 Lb.	Less than 1.5 Lb.
3/0 to 6	200	\$.01	\$.02	\$.04	\$.08	\$.16	\$.30	\$.40
7 " 15	150	....	.02	.04	.06	.12	.20	.30
16 and 17	125	....	....	.04	.06	.10	.18	.25
18 to 20	50	....	....	....	.04	.08	.16	.20

Intermediate sizes—take price of next smaller size listed.

Deltabeston Rectangular Magnet Wire



The use of flat and square magnet wires is rapidly increasing. Since a greater cross section of copper is secured the desirability of this form of wire is evident. Until Deltabeston insulation was obtainable on rectangular wires, their use was somewhat limited to motors in which the temperature rises were normal. Since Deltabeston is now procurable in nearly all sizes and shapes, the advantages of flat and square wires may be had together with the benefits derived from a fireproof insulation.

The satisfactory application of an asbestos covering on flat and square magnet wires presents certain difficulties not encountered in the insulating of round wires. To apply a smooth, uniform covering over the rounded corners as well as on the flat surfaces of the wire is obviously essential. The manufacturer has so perfected his methods of manufacture that this is achieved with absolute certainty. The insulation adheres tightly to the conductor and although it is tough, its tenacity is unaffected by sharp bends.

Thick. in Mils Bare In.	PRICE, PER POUND—BASE PRICE 30 CENTS					
	WIDTH IN MILS—BARE, INCHES					
	80	90	100	125	150	175 200
20	\$3.16	\$2.92	\$2.65	\$2.32	....	....
25	2.80	2.64	2.42	2.20	2.02	....
30	2.43	2.32	2.19	2.02	1.86	\$1.76 \$1.68
40	2.12	2.07	1.97	1.86	1.68	1.63 1.60
50	1.95	1.86	1.76	1.68	1.56	1.52 1.51
60	1.78	1.70	1.62	1.55	1.52	1.47 1.45
80	1.61	1.54	1.48	1.42	1.34	1.32 1.30
90	....	1.50	1.45	1.41	1.33	1.30 1.28
100	....	....	1.43	1.40	1.32	1.29 1.26
125	....	....	....	1.39	1.31	1.27 1.24
150	....	....	....	....	1.28	1.25 1.22
175	....	....	....	....	....	1.22 1.20
200	....	....	....	....	....	.... 1.18

Thick. in Mils Bare In.	PRICE, PER POUND—BASE PRICE 30 CENTS					
	WIDTH IN MILS—BARE, INCHES					
	225	250	275	300	350	400
30	\$1.66	....	....	....	....	....
40	1.58	\$1.56	\$1.54	....	....	....
50	1.50	1.49	1.48	\$1.47	\$1.46	....
60	1.43	1.42	1.42	1.40	1.38	\$1.36
80	1.30	1.29	1.29	1.28	1.28	1.27
90	1.28	1.27	1.27	1.26	1.25	1.25
100	1.26	1.25	1.24	1.23	1.22	1.22
125	1.24	1.23	1.22	1.21	1.20	1.20
150	1.22	1.21	1.20	1.19	1.18	1.18
175	1.20	1.19	1.18	1.17	1.16	1.16
200	1.18	1.17	1.16	1.15	1.14	1.14
225	1.16	1.15	1.14	1.13	1.13	1.13
250	....	1.13	1.13	1.12	1.12	1.12
275	....	....	1.12	1.12	1.12	1.12
300	....	....	....	1.12	1.12	1.12

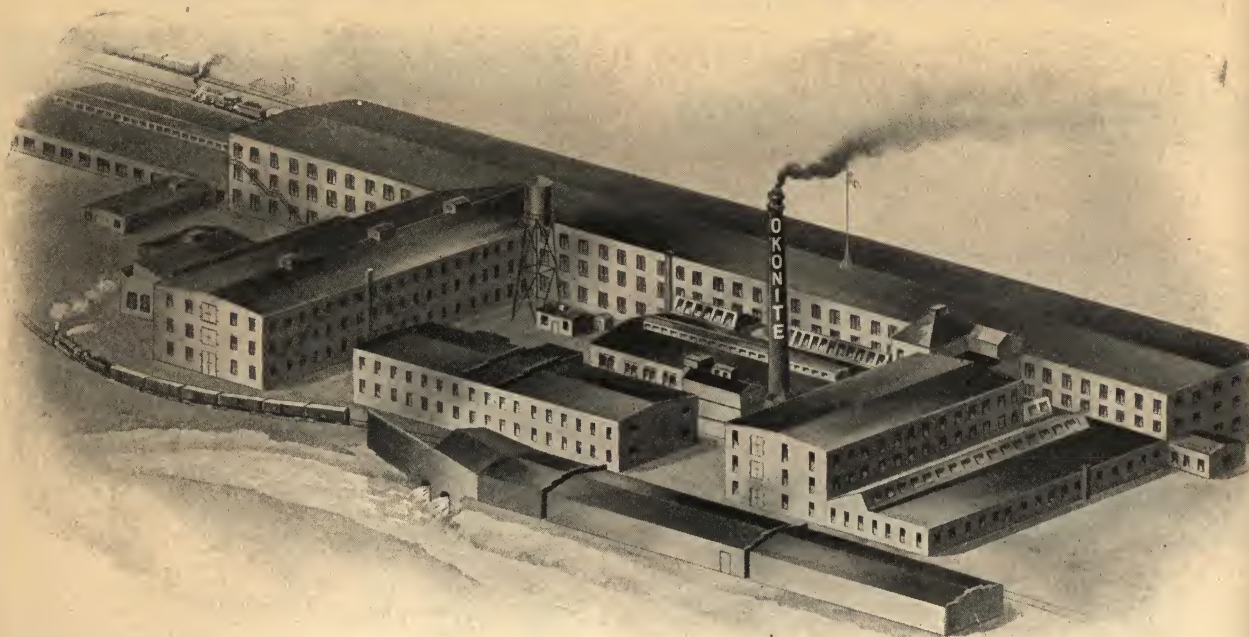
Each one cent change in base is 3 cents per pound list.

Net Additions per Pound to the Net Price for Quantities Less Than Full Spool

Size	Full Spool In Lb.	199 to 100 Lb.	99 to 50 Lb.	49 to 25 Lb.	24 Lb. and Less
All	200	\$.03	\$.06	\$.12	\$.24



Okonite Wire and Cable



The Okonite Company was founded in 1878 by John Haven Cheever, who was the first manufacturer of vulcanized rubber goods under the original Goodyear patents. He had previously founded the Boston Belting Company, and some years later, 1856, the New York Belting & Packing Company.

The unequalled experience thus obtained enabled him to develop a compound perfectly adapted to requirements necessary for a long life insulation as well as one having the highest electrical qualities.

The formula which he outlined for rubber insulation has proven itself in actual service for the past forty-five years to be the acme of rubber insulation and the standard by which all rubber insulations are judged. The durability of Okonite insulation, when applied by the Okonite process devised by Mr. Cheever, has been so successful in practice that neither compound nor process has been changed. The process of manufacture includes the vulcanization of the insulating compound in a metal mould and has been found to be necessary if the best possible insulation is to be produced.

The Okonite Company's two guiding policies, viz.: first, to make the best product possible; second, to stand behind the product, were laid down by Mr. Cheever and have never been deviated from by the Okonite Company.

Okonite insulation is a rubber compound never containing less than 30 per cent by weight, over 60 per cent by volume, of wild, dry, up-river fine Para rubber, with no admixture of low-grade rubber, reclaimed rubber or rubber substitutes. Okonite is compounded with nothing but the highest grade material and each step in the process of manufacture is carefully checked, so as to be absolutely certain that the finished insulated wire will be a perfect product.

Rubber

The wild, up-river fine Para used by the Okonite Company, after being thoroughly washed and sheeted, is hung in dark drying rooms where it is left for not less than 60 days. This slow drying process, (though tedious and more expensive) is far superior to any other drying process, as the rubber dries naturally and gains materially in toughness and elasticity, while the tendency of other methods, such as the vacuum process, is to soften the rubber rather than to make it tougher.

Fillers

All the fillers used in making Okonite are tested in the laboratory and are known to be chemically pure before they are used. Before being mixed with the rubber they are passed through extremely fine screens and then thoroughly dried under vacuum.

Mixing and Calendering

The compound is thoroughly ground, and mixed on Jumbo grinders. It is then laid aside for several days to "season." After seasoning, it is "warmed" and run through the calenders, sheeted to the required thickness and backed with heavy sheet tin.

Covering

The compound with its tin backing is cut into strips and folded around the tinned copper wire (sheet tin on the outside) and rigidly held in this mould during the process of vulcanization.

This not only insures perfect centering of the conductor but greatly adds to the density of the vulcanized product, increases the tensile strength, prolongs the life, and greatly improves the electrical qualities.

Tables on pages following give dimensions and weights of single conductor wires and cables. The thickness of insulation and of lead sheath is in accordance with the National Electric Code of 1920.

Okonite Insulation is made in only one grade and always contains 30 per cent by weight (over 60 per cent by volume) of fine, dry, up-river Para rubber.

Braided wire dimensions and weights are based on cotton braid thoroughly saturated with either a weatherproof preservative compound or a flameproof compound. Tape and braid will be approximately same weight and dimensions as double braid. Unless otherwise specified, commercially pure lead will be furnished on all sheath cables.

Weight is given in pounds per 1000 feet; dimensions in inches. Weights and dimensions for finished wire are approximate and do not include reels boxes or other containers.

Voltage and insulation resistance tests are applied to every foot of Okonite wire, after 48 hours' immersion and on the plain wire before the application of tape, braid and other covering.



Okonite Wire and Cable

N. E. C. Standard Thickness of Insulation.

600 Volts

Single Conductor—Solid



Single Braid

Size A. W. G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
*14	1	$\frac{3}{64}$	3000	.190	32
*12	1	$\frac{3}{64}$	2700	.215	41
*10	1	$\frac{3}{64}$	2400	.240	57
*8	1	$\frac{3}{64}$	1800	.265	79

Double Braid

Size A. W. G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	1	$\frac{3}{64}$	3000	.230	38
12	1	$\frac{3}{64}$	2700	.255	47
10	1	$\frac{3}{64}$	2400	.310	68
8	1	$\frac{3}{64}$	1800	.335	92

Single Conductor—Stranded



Single Braid

Size A. W. G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	7	$\frac{3}{64}$	3000	.220	35
12	7	$\frac{3}{64}$	2700	.240	47
10	7	$\frac{3}{64}$	2400	.265	63
8	7	$\frac{3}{64}$	1800	.320	92

Double Braid

Size A. W. G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	7	$\frac{3}{64}$	3000	.265	42
12	7	$\frac{3}{64}$	2700	.310	58
10	7	$\frac{3}{64}$	2400	.335	75
8	7	$\frac{3}{64}$	1800	.390	107
6	7	$\frac{3}{64}$	2100	.460	161
4	7	$\frac{3}{64}$	1750	.500	223
3	7	$\frac{3}{64}$	1600	.540	267
2	19	$\frac{1}{64}$	1500	.565	308
1	19	$\frac{1}{64}$	1600	.660	408
0	19	$\frac{1}{64}$	1300	.710	489
00	19	$\frac{1}{64}$	1200	.760	591
000	19	$\frac{1}{64}$	1050	.810	718
0000	19	$\frac{1}{64}$	1000	.860	851

*Carried in stock with regular black saturated braid as well as with white saturated braid. In ordering, specify quantity, white, wanted. Unless so specified regular black saturated braid will be shipped. Double braided solid or stranded and single braided stranded will be furnished with white saturated braid upon special order.

The following finishes can also be supplied on wires and cables listed above:

OKOLOOM.—Asbestos, linen, hose yarn, or steel wire braids.

Full data upon request.

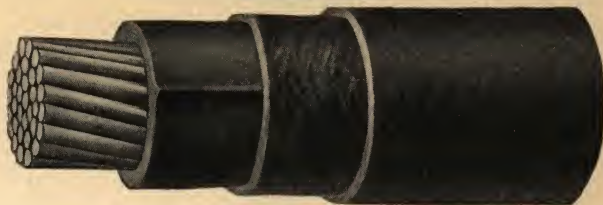
DO YOU REALIZE that The Okonite Company has specialized in this product for forty-five years.

Okonite Wire and Cable

N. E. C. Standard Thickness of Insulation

600 Volts

Circular Mil



Double Braid

Size C. M.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
250000	19	$\frac{5}{64}$	1000	.940	1028
300000	37	$\frac{5}{64}$	950	1.005	1228
400000	37	$\frac{5}{64}$	850	1.135	1582
500000	61	$\frac{5}{64}$	750	1.250	1920
600000	61	$\frac{5}{64}$	800	1.380	2407
700000	61	$\frac{1}{64}$	750	1.440	2706
800000	91	$\frac{1}{64}$	700	1.500	3024
900000	91	$\frac{1}{64}$	675	1.580	3450
1000000	91	$\frac{1}{64}$	650	1.620	3650
1500000	127	$\frac{1}{64}$	575	1.910	5392
2000000	127	$\frac{1}{64}$	500	2.130	7095

Twin Conductors



All duplex conductors have one marked conductor, that is, one conductor with a white saturated braid, one conductor with a black saturated braid.

Solid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	1	$\frac{3}{64}$	.245x.440	80
12	1	$\frac{3}{64}$	.290x.505	98
10	1	$\frac{3}{64}$	.310x.545	132
8	1	$\frac{3}{64}$	.370x.655	189

Stranded

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	7	$\frac{3}{64}$	.260x.470	86
12	7	$\frac{3}{64}$	.310x.550	115
10	7	$\frac{3}{64}$	.345x.605	154
8	7	$\frac{3}{64}$	.395x.705	209

Fixture Wire



Solid—Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
*18	1	$\frac{1}{64}$	.123	13
*16	1	$\frac{1}{64}$	.133	18
*14	1	$\frac{1}{64}$	.190	32
*12	1	$\frac{1}{64}$	.215	41

Stranded—Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
18	7	$\frac{1}{64}$	.140	15
16	7	$\frac{1}{64}$	.155	20
14	7	$\frac{1}{64}$	.220	35
12	7	$\frac{1}{64}$	.240	47

*Carried in stock with regular black saturated braid as well as with white saturated braid. In ordering specify quantity, white, wanted. Unless so specified regular black saturated braid will be shipped. Double braided solid or stranded and single braided stranded will be furnished with white saturated braid upon special order.

The following finishes can also be supplied on wires and cables listed above:

OKOLOOM.—Asbestos, linen, hose yarn, or steel wire braids.

Full data upon request.

DO YOU REALIZE that The Okonite Company has specialized in this product for forty-five years.



Okonite Wire and Cable

N. E. C. Standard Thickness of Insulation

1500 Volts

Single Conductor—Solid



Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	1	$\frac{5}{64}$	5100	.315	65
12	1	$\frac{5}{64}$	4500	.330	76
10	1	$\frac{5}{64}$	3900	.350	93
8	1	$\frac{5}{64}$	3350	.390	118

Double Braid

14	1	$\frac{5}{64}$	5100	.375	79
12	1	$\frac{5}{64}$	4500	.390	91
10	1	$\frac{5}{64}$	3900	.410	109
8	1	$\frac{5}{64}$	3350	.460	135

Single Conductor—Stranded



Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
14	7	$\frac{5}{64}$	5100	.330	70
12	7	$\frac{5}{64}$	4500	.345	85
10	7	$\frac{5}{64}$	3900	.385	104
8	7	$\frac{5}{64}$	3350	.415	132

Double Braid

14	7	$\frac{5}{64}$	5100	.390	85
12	7	$\frac{5}{64}$	4500	.405	101
10	7	$\frac{5}{64}$	3900	.450	121
8	7	$\frac{5}{64}$	3350	.485	150
6	7	$\frac{7}{64}$	3250	.555	211
4	7	$\frac{7}{64}$	2750	.605	286
3	7	$\frac{7}{64}$	2500	.635	340
2	19	$\frac{7}{64}$	2300	.680	397
1	19	$\frac{8}{64}$	2350	.745	492
1/0	19	$\frac{8}{64}$	1950	.785	565
2/0	19	$\frac{8}{64}$	1750	.850	674
3/0	19	$\frac{8}{64}$	1600	.905	808
4/0	19	$\frac{8}{64}$	1450	.955	945

Circular Mil—Double Braid

Size C.M.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
250000	19	$\frac{9}{64}$	1400	1.035	1123
300000	37	$\frac{9}{64}$	1300	1.100	1326
400000	37	$\frac{9}{64}$	1150	1.260	1701
500000	61	$\frac{9}{64}$	1050	1.340	2019
600000	61	$\frac{11}{64}$	1100	1.470	2520
700000	61	$\frac{11}{64}$	1000	1.535	2832
800000	91	$\frac{11}{64}$	950	1.600	3159
900000	91	$\frac{11}{64}$	925	1.675	3573
1000000	91	$\frac{11}{64}$	900	1.710	3773
1500000	127	$\frac{11}{64}$	700	1.970	5442
2000000	127	$\frac{11}{64}$	625	2.225	7369

The following finishes can also be supplied on wires and cables listed above:

OKOLOOM.—Asbestos, linen, hose yarn, or steel wire braids.

Full data on request.

Okonite wire and cable will stand a greater amount of kinking and torsion without permanent injury to the insulation than any other wire on the market.

DO YOU REALIZE that the difference in cost between Okonite and code grade is a very small percentage of the total cost of an electrical installation.

Okonite Wire and Cable

N. E. C. Standard Thickness of Insulation

2500 Volts

Single Conductor—Solid



Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
12	1	$\frac{5}{64}$	5300	.400	101
10	1	$\frac{5}{64}$	4700	.425	121
8	1	$\frac{5}{64}$	4100	.450	149

Double Braid

12	1	$\frac{5}{64}$	5300	.470	119
10	1	$\frac{5}{64}$	4700	.495	139
8	1	$\frac{5}{64}$	4100	.520	168

Single Conductor—Stranded



Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
12	7	$\frac{5}{64}$	5300	.415	103
10	7	$\frac{5}{64}$	4700	.440	134
8	7	$\frac{5}{64}$	4100	.475	165

Double Braid

12	7	$\frac{5}{64}$	5300	.485	121
10	7	$\frac{5}{64}$	4700	.510	153
8	7	$\frac{5}{64}$	4100	.545	186
6	7	$\frac{7}{64}$	3500	.615	276
4	7	$\frac{7}{64}$	3000	.685	354
3	7	$\frac{7}{64}$	2800	.715	397
2	19	$\frac{7}{64}$	2550	.745	446
1	19	$\frac{10}{64}$	2750	.810	546
0	19	$\frac{10}{64}$	2250	.870	629
00	19	$\frac{10}{64}$	2100	.915	740
000	19	$\frac{10}{64}$	1850	.970	884
0000	19	$\frac{10}{64}$	1750	1.020	1020

Circular Mil—Double Braid

Size C.M.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt., Lbs. per 1000 Ft.
250000	19	$\frac{10}{64}$	1550	1.065	1164
300000	37	$\frac{10}{64}$	1400	1.130	1368
400000	37	$\frac{10}{64}$	1300	1.290	1738
500000	61	$\frac{10}{64}$	1150	1.370	2070
600000	61	$\frac{10}{64}$	1100	1.470	2521
700000	61	$\frac{10}{64}$	1000	1.535	2832
800000	91	$\frac{10}{64}$	950	1.600	3159
900000	91	$\frac{10}{64}$	925	1.675	3574
1000000	91	$\frac{10}{64}$	900	1.710	3773
1500000	127	$\frac{10}{64}$	700	1.970	5442
2000000	127	$\frac{10}{64}$	625	2.225	7369

The following finishes can also be supplied on wires and cables listed above:

OKOLOOM.—Asbestos, linen, hose yard, or steel wire braids.

Full data on request.

Okonite insulation has a tensile strength of 1000 pounds per square inch.



Okonite Wire and Cable

N. E. C. Standard Thickness of Insulation

3500 Volts

Single Conductor—Stranded



Double Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
10	7	$\frac{10}{64}$	5300	.575	189
8	7	$\frac{10}{64}$	4700	.605	228
6	7	$\frac{10}{64}$	4050	.665	290
4	7	$\frac{10}{64}$	3500	.715	366
3	7	$\frac{10}{64}$	3250	.745	418
2	19	$\frac{10}{64}$	3000	.775	471
1	19	$\frac{10}{64}$	2750	.810	546
0	19	$\frac{10}{64}$	2250	.870	629
00	19	$\frac{10}{64}$	2100	.915	740
000	19	$\frac{10}{64}$	1850	.970	884
0000	19	$\frac{10}{64}$	1750	1.020	1020

Circular Mil—Double Braid

Size C.M.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
250000	19	$\frac{11}{64}$	1650	1.100	1201
300000	37	$\frac{11}{64}$	1500	1.160	1407
400000	37	$\frac{11}{64}$	1350	1.320	1780
500000	61	$\frac{11}{64}$	1250	1.405	2116
600000	61	$\frac{12}{64}$	1300	1.535	2624
700000	61	$\frac{12}{64}$	1200	1.595	2940
800000	91	$\frac{12}{64}$	1150	1.660	3271
900000	91	$\frac{12}{64}$	1100	1.735	3694
1000000	91	$\frac{12}{64}$	1025	1.770	3894
1500000	127	$\frac{12}{64}$	825	2.035	5595
2000000	127	$\frac{12}{64}$	725	2.285	7534

5000 Volts

Single Conductor—Stranded

Double Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
8	7	$\frac{12}{64}$	5200	.690	291
6	7	$\frac{12}{64}$	4500	.730	344
4	7	$\frac{12}{64}$	3950	.780	428
3	7	$\frac{12}{64}$	3700	.810	483
2	19	$\frac{12}{64}$	3350	.835	533
1	19	$\frac{12}{64}$	3100	.870	606
0	19	$\frac{12}{64}$	2600	.910	696
00	19	$\frac{12}{64}$	2350	.955	808
000	19	$\frac{12}{64}$	2250	1.010	954
0000	19	$\frac{12}{64}$	2000	1.060	1102

Circular Mil—Double Braid

Size C.M.	No. of Strands	Okonite Wall Inches	Insulation Resistance Megohm Miles	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
250000	19	$\frac{12}{64}$	1800	1.160	1261
300000	37	$\frac{12}{64}$	1700	1.250	1487
400000	37	$\frac{12}{64}$	1500	1.340	1848
500000	61	$\frac{12}{64}$	1400	1.430	2213
600000	61	$\frac{12}{64}$	1300	1.535	2624
700000	61	$\frac{12}{64}$	1200	1.595	2940
800000	91	$\frac{12}{64}$	1150	1.660	3271
900000	91	$\frac{12}{64}$	1100	1.735	3694
1000000	91	$\frac{12}{64}$	1025	1.770	3894
1500000	127	$\frac{14}{64}$	950	2.100	5756
2000000	127	$\frac{14}{64}$	825	2.350	7716

The following finishes can also be supplied on wires and cables listed above:

OKOLOOM.—Asbestos, linen, hose yarn, or steel wire braids.

Full data on request.

Okonite Flexible Wire and Cable Plain Insulation



The flexible tinned copper conductors are insulated with Okonite Insulation which will resist strong acid solutions longer than any other insulation.

Ideal insulation for storage battery connectors and similar service.

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
18	19	$\frac{2}{64}$	.115	13
16	19	$\frac{2}{64}$	.125	16.5
14	19	$\frac{2}{64}$	.170	29.2
12	37	$\frac{3}{64}$	.185	36.8
10	37	$\frac{3}{64}$	.220	59
8	37	$\frac{3}{64}$	.245	76
6	61	$\frac{4}{64}$	.315	125
4	61	$\frac{4}{64}$	.360	178
3	61	$\frac{4}{64}$	.385	212
2	61	$\frac{4}{64}$	.425	268
1	91	$\frac{5}{64}$	.490	347.5
1/0	91	$\frac{5}{64}$	.565	490
2/0	91	$\frac{5}{64}$	.610	587
3/0	91	$\frac{5}{64}$	.665	721.5
4/0	91	$\frac{5}{64}$	.720	871.5

The above is but a partial listing. This material can be furnished with solid conductors, stranded conductors, extra flexible conductors or with special strandings with walls of Okonite as specified.

NOTE.—Plain Okonite Insulated wires are used by some of our customers with very satisfactory results for lighting circuits in battery rooms and other places where the acid fumes quickly destroy the braided covering. We suggest when ordering for this purpose that you specify a one-thirty-second thicker wall than shown for 600 volts service in order to compensate for the mechanical protection lost by omitting the braids.

Okonite Flexible Cable

N. E. C. Standard Thickness of Insulation
600 Volts

Single Conductor



Okonite flexible cables are used extensively for automobile starter cables, motor and generator lead cables and similar purposes where a more flexible cable than stranded is desired.

Single Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
18	19	$\frac{2}{64}$	.140	15
16	19	$\frac{2}{64}$	.150	20
14	19	$\frac{3}{64}$	.220	34
12	37	$\frac{3}{64}$	.240	44
10	37	$\frac{3}{64}$	.270	70
8	37	$\frac{3}{64}$	.320	89

Double Braid

Size A.W.G.	No. of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
18	19	$\frac{2}{64}$	.170	18
16	19	$\frac{2}{64}$	.180	24
14	19	$\frac{2}{64}$	.265	40
12	37	$\frac{3}{64}$	.310	55
10	37	$\frac{3}{64}$	.340	82
8	37	$\frac{3}{64}$	.390	104
6	61	$\frac{4}{64}$	.460	161
4	61	$\frac{4}{64}$	.510	228
3	61	$\frac{4}{64}$	.540	270
2	61	$\frac{4}{64}$	.565	321
1	61	$\frac{5}{64}$	.660	426
0	91	$\frac{5}{64}$	.740	547
00	91	$\frac{5}{64}$	.790	662
000	91	$\frac{5}{64}$	.840	798
0000	91	$\frac{5}{64}$	.900	958

The above listing of Okonite flexible cables is not complete.

Although the data given above is for single conductors with 600 volt insulation, these flexible conductors can be insulated for any commercial voltage, either single or multiple conductor.

The following outside finishes can be furnished: Cotton, linen, or hose yarn braids, or Okoloom.

Okonite insulation has a tensile strength of 1000 pounds per square inch



Okonite Extra Flexible Cable

N. E. C. Standard Thickness of Insulation
600 Volts



Twin Cable Extra No. 7 (61 x No. 25 A.W.G.)

Double Braid

Approx. Size A. W. G.	No. of Strands	Size Each Strand A. W. G.	Actual Circular Mils	Diam. Over Copper Inches	Okonite Wall Inches	Diam. In.	Wt. Lbs. per 1000 Ft.
12	61	30	6130	.0903	$\frac{3}{64}$	.265	48
10	61	28	9747	.1138	$\frac{3}{64}$	.300	67
8	61	26	15500	.1435	$\frac{3}{64}$	.360	94
7	61	25	19540	.1611	$\frac{3}{64}$	.410	123
6	91	26	23120	.1753	$\frac{1}{64}$	.420	137
5	91	25	29160	.1969	$\frac{1}{64}$	.465	164
4	127	25	40690	.2327	$\frac{1}{64}$	.500	206
3	133	24	53730	.3015	$\frac{1}{64}$	.570	266
2	259	26	65800	.3347	$\frac{1}{64}$	.600	312
1	259	25	82980	.3759	$\frac{1}{64}$	.695	420
0	259	24	104600	.4221	$\frac{1}{64}$	.745	500
00	427	25	136800	.4833	$\frac{1}{64}$	.805	623
000	427	24	172500	.5427	$\frac{1}{64}$	.885	753
0000	637	25	204100	.5907	$\frac{1}{64}$	.930	867
Cir. Mils							
250000	637	24	257300	.6633	$\frac{1}{64}$	1.035	1095
300000	889	25	284800	.6981	$\frac{1}{64}$	1.070	1194
350000	889	24	359200	.7839	$\frac{1}{64}$	1.155	1460
450000	1159	24	468200	.9045	$\frac{1}{64}$	1.335	1848
550000	1729	25	554000	.9845	$\frac{1}{64}$	1.445	2195
700000	1729	24	698400	1.1060	$\frac{1}{64}$	1.565	2698
750000	2413	25	773100	1.1640	$\frac{1}{64}$	1.625	2955
1000000	2413	24	974800	1.3070	$\frac{1}{64}$	1.770	3647
1250000	2413	23	1229000	1.4670	$\frac{1}{64}$	1.960	4581

Triple Braid

12	61	30	6130	.0903	$\frac{3}{64}$	.305	58
10	61	28	9747	.1138	$\frac{3}{64}$	.345	78
8	61	26	15500	.1435	$\frac{3}{64}$	.420	108
7	61	25	19540	.1611	$\frac{3}{64}$	.470	139
6	91	26	23120	.1753	$\frac{1}{64}$	.480	154
5	91	25	29160	.1969	$\frac{1}{64}$	.535	183
4	127	25	40690	.2327	$\frac{1}{64}$	.570	226
3	133	24	53730	.3015	$\frac{1}{64}$	.640	289
2	259	26	65800	.3347	$\frac{1}{64}$	.670	336
1	259	25	82980	.3759	$\frac{1}{64}$	.775	456
0	259	24	104600	.4221	$\frac{1}{64}$	.825	538
00	427	25	136800	.4833	$\frac{1}{64}$	.885	664
000	427	24	172500	.5427	$\frac{1}{64}$	.975	799
0000	637	25	204100	.5907	$\frac{1}{64}$	1.020	915
Cir. Mils							
250000	637	24	257300	.6633	$\frac{1}{64}$	1.125	1149
300000	889	25	284800	.6981	$\frac{1}{64}$	1.160	1250
350000	889	24	359200	.7839	$\frac{1}{64}$	1.245	1520
450000	1159	24	468200	.9045	$\frac{1}{64}$	1.455	1917
550000	1729	25	554000	.9845	$\frac{1}{64}$	1.565	2269
700000	1729	24	698400	1.1060	$\frac{1}{64}$	1.685	2777
750000	2413	25	773100	1.1640	$\frac{1}{64}$	1.745	3039
1000000	2413	24	974800	1.3070	$\frac{1}{64}$	1.890	3737
1250000	2413	23	1229000	1.4670	$\frac{1}{64}$	2.080	4681

The above stranding is intended for use where extreme flexibility is desired, such as: railway motor leads, generator leads, mining machine cables, etc. Although the data given above is for single conductors with 600 volt insulation, these flexible conductors can be insulated for any commercial voltage either single or multiple conductor.

The following outside finishes can be furnished: Cotton, linen or hose yarn braids, Okoloom.

DO YOU REALIZE that many public utility companies gladly pay a higher price for Okonite, in order to insure uninterrupted service to their customers.

Okonite Mining Machine Cable
Duplex Flat

Each conductor, extra flexible, composed of 133 strands of tinned copper wire. The conductors are separately insulated to code thickness of wall with Okonite insulation and covered with weatherproof braid. The two conductors are laid parallel with two heavy weatherproof braids over all.

Size A. W. G.	No. of Strands	Approx. O.D. Inches	Size A. W. G.	No. of Strands	Approx. O.D. Inches
4	133	1.060 x .620	2	133	1.320 x .780
3	133	1.150 x .665	0	133	1.590 x .915

Two Conductor, Round



Each conductor, extra flexible, composed of 133 strands of tinned copper wire. The conductors are separately insulated to code thickness of wall with Okonite insulation and covered with weatherproof braid. The two conductors are stranded together with jute fillers to make a round cable with two heavy weatherproof braids over all.

Size A. W. G.	No. of Strands	Approx. O.D. Inches	Size A. W. G.	No. of Strands	Approx. O.D. Inches
4	133	1.060	2	133	1.320
3	133	1.150	0	133	1.590

Concentric



Construction "A"

The center is flexible strand, insulated with Okonite $\frac{1}{4}$ inch thicker than National Electric Code Standard. This is finished with a tape and a braid. Over this are placed fine wires, equal in area to the center conductor. A belt of Okonite $\frac{1}{4}$ inch less than the first belt is now applied and the whole cable finished with a tape and a double braid.

Size A. W. G.	No. of Strands	Approx. O.D. Inches	Size A. W. G.	No. of Strands	Approx. O.D. Inches
4	133	.930	2	133	1.030
3	133	.995	0	133	1.265

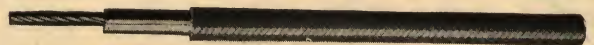
Construction "B"

This is the same as "A" without the outside belt of rubber.

Size A. W. G.	No. of Strands	Approx. O.D. Inches	Size A. W. G.	No. of Strands	Approx. O.D. Inches
4	133	.805	2	133	.925
3	133	.870	0	133	1.105

Okocord in 2, 3, and 4 conductor, is largely used as mining machine cable; as portable cord for all types of portable machinery; for dredge cable and similar purposes.

Single conductors are used for mine reel cables, welding machine cables, etc.

Okonite Flexible Wire
With Special P. SF Braid

Used for wiring relays, instruments, automobile lighting fixtures and other purposes where space is limited and a thoroughly reliable insulated conductor is necessary.

Size A. W. G.	Number of Strands	Approx. O.D. Inches	Approx. Wt. Lbs. per 1000 Ft.
18	19	.150	18½
16	19	.165	20
14	19	.170	28

**Okoloom Portable Cord**

Okoloom Cord is especially adapted and recommended for use where hard service is required, such as electric connections to portable equipment in mines, docks, shops, garages, round houses, etc. In short, any place where cable is constantly dragged over the ground and where heavy abrasive conditions are encountered.

Okoloom Cord has a loom weave covering which consists of a specially twisted heavy long fibre cotton which is first saturated with a preservative compound. This covering is applied by special machines and is uniform as to quality and structure. This method of manufacturing results in a weave similar to that on a fire hose and gives the best mechanical protection possible. The insulation used to insulate the copper conductors is Okonite. The chief features of Okonite insulation are its high electrical properties, great toughness and durability. It is composed of 30 per cent by weight of the best quality of pure Upriver fine para rubber, in correct chemical balance with dry mineral matter by exclusive formula. The wild Upriver fine para used after being thoroughly washed and sheeted, is hung in dark drying rooms where it is left for not less than 60 days. This slow drying process (though tedious and more expensive) is far superior to any other drying process, as the rubber dries naturally and gains materially in toughness and elasticity, while the tendency of other methods, such as the vacuum process, is to soften the rubber rather than to make it tougher.

All the fillers used in making Okonite are tested in the chemical laboratory and are known to be chemically pure before they are used. Before being mixed with the rubber they are passed through extremely fine screens and then thoroughly dried under vacuum.

The compound is thoroughly ground and mixed on Jumbo grinders. It is then laid aside for several days to season. After seasoning, it is warmed and run through the most modern type of calendars sheeted to the required thickness and backed with heavy sheet tin.

Two Conductors

Size A. W. G.	No. of Strands per Cond.	Okonite Wall Each Cond. Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
18	19	$\frac{3}{64}$	.460	95
16	19	$\frac{3}{64}$	.480	112
14	19	$\frac{3}{64}$	.600	187
12	37	$\frac{3}{64}$	.620	210
10	37	$\frac{3}{64}$	.700	275
8	37	$\frac{3}{64}$	.785	332
6	61	$\frac{1}{64}$	.955	476
4	61	$\frac{1}{64}$	1.035	663

Three Conductors

16	19	$\frac{3}{64}$	.520	138
14	19	$\frac{3}{64}$	.645	231
12	37	$\frac{3}{64}$	.690	268
10	37	$\frac{3}{64}$	.765	353
8	37	$\frac{3}{64}$	.840	429
6	61	$\frac{3}{64}$	1.000	622
4	61	$\frac{3}{64}$	1.200	885

Four Conductors

14	19	$\frac{3}{64}$	.700	286
12	37	$\frac{3}{64}$	.745	326
10	37	$\frac{3}{64}$	.830	441
8	37	$\frac{3}{64}$	.890	527
6	61	$\frac{3}{64}$	1.090	844
4	61	$\frac{3}{64}$	1.285	1102

We are prepared to furnish other than sizes listed.
Prices upon application

Okocord Portable Cords
N. E. C. Standard Thickness of Insulation
600 Volts

Made of fine stranded, tinned copper wire, insulated with a 30 per cent Okonite compound.

Stranding as follows:

18a	19x .010 Inches	$\frac{3}{64}$ -inch Okonite Wall
16a	19x .012 "	" " "
14a	19x .015 "	" " "
12a	37x .013 "	" " "
10a	37x .018 "	" " "

Skeleton braid as marker on each conductor.

The insulated conductors are twisted and covered with a 60 per cent rubber jacket which entirely fills the interstices between conductors.

Outside diameters are shown below:

Size A.W.G.	2-conductor		3-conductor		4-conductor	
	Weight Pounds	O.D. Inches	Weight Pounds	O.D. Inches	Weight Pounds	O.D. Inches
18a	83	.395	98	.416	130	.451
16a	100	.415	122	.438	153	.485
14a	167	.536	204	.566	248	.615
12a	206	.598	255	.631	311	.683
10a	282	.668	351	.706	428	.768

Okocord Portable Cord and Cable

N. E. C. Standard Thickness of Insulation
600 Volts

Size A.W.G.	Single Conductor		2-cond. Twisted		3-cond. Twisted	
	No. of Strands	Wt. Lbs. per 1000 Ft.	O.D. In.	Wt. Lbs. per 1000 Ft.	O.D. In.	Wt. Lbs. per 1000 Ft.
8	49	120	.422	330	.719	465
6	49	170	.484	540	.906	650
5	49	200	.516	615	.969	765
5	133	200	.516	620	.969	765
4	49	245	.563	745	1.063	935
4	133	245	.563	755	1.063	945
3	49	305	.625	870	1.125	1095
3	133	315	.625	895	1.125	1135
2	133	360	.656	1020	1.188	1310
1	133	445	.719	1285	1.313	1640
0	133	530	.766	1540	1.438	2030
0	259	535	.766	1560	1.438	2060
00	133	645	.813	1835	1.531	2420
00	259	625	.813	1790	1.531	2355
000	259	750	.859	2170	1.656	2840
000	427	780	.859	2225	1.656	2925
0000	259	900	.922	2570	1.781	3390
0000	427	925	.922	2615	1.781	3460

Single conductors are all 60 per cent compound to diameter as given above.

Size A.W.G.	4-conductor Twisted		Concentric 2-conductor	
	No. of Strands	Wt. Lbs. per 1000 Ft.	O.D. In.	Wt. Lbs. per 1000 Ft.
8	49	575	.922	270
6	49	800	1.031	385
5	49	950	1.109	450
5	133	955	1.109	450
4	49	1150	1.219	510
4	133	1165	1.219	515
3	49	1370	1.297	630
3	133	1420	1.297	625
2	133	1630	1.375	760
1	133	2085	1.531	930
0	133	2545	1.703	1125
0	259	2580	1.703	1130
00	133	3060	1.813	1355
00	259	2970	1.813	1340
000	259	3600	1.953	1585
000	427	3715	1.953	1610
0000	259	4315	2.109	1925
0000	427	4410	2.109	1940



Okonite Telephone and Telegraph Wire

Plain Conductors—Soft Drawn Copper

Used for telephone and telegraph potheads. Also used for radio set wiring, instrument wiring and for burglar alarm screen wiring.

Single Solid Conductor

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.085	8	18	$\frac{7}{64}$	.110	12 $\frac{1}{2}$
22	$\frac{7}{64}$	.110	9 $\frac{1}{2}$	18	$\frac{1}{32}$	.125	15
20	$\frac{3}{32}$	.085	8 $\frac{1}{2}$	16	$\frac{1}{32}$	.125	17
20	$\frac{7}{64}$	.110	10 $\frac{1}{2}$	16	$\frac{3}{32}$	.160	24
19	$\frac{3}{32}$	.085	9 $\frac{1}{2}$	14	$\frac{3}{32}$	.160	27 $\frac{1}{2}$
19	$\frac{7}{64}$	.110	12	14	$\frac{6}{32}$	.190	35

Two Solid Conductors—Twisted

One Conductor Red for Marker

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.190	16	18	$\frac{7}{64}$	.220	25
22	$\frac{7}{64}$	.220	19	18	$\frac{1}{32}$	.250	30
20	$\frac{3}{32}$	.190	17	16	$\frac{1}{32}$	.250	34
20	$\frac{7}{64}$	.220	21	16	$\frac{3}{32}$	.320	48
19	$\frac{3}{32}$	.190	19	14	$\frac{3}{32}$	.320	55
19	$\frac{7}{64}$	.220	24	14	$\frac{6}{32}$	.380	70

Three Solid Conductors—Twisted

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.210	24	18	$\frac{7}{64}$	.242	38
22	$\frac{7}{64}$	.242	29	18	$\frac{1}{32}$	.275	45
20	$\frac{3}{32}$	.210	26	16	$\frac{1}{32}$	.275	51
20	$\frac{7}{64}$	.242	32	16	$\frac{3}{32}$	.352	71
19	$\frac{3}{32}$	.210	29	14	$\frac{3}{32}$	.352	83
19	$\frac{7}{64}$	.242	36	14	$\frac{6}{32}$	.418	103

Twisted Conductors, Dry Cotton Braid— Soft Drawn Copper



One Conductor Red for Marker

Used for wiring for telephone and telegraph instruments in dry places and for similar purposes.

Two Solid Conductors—Twisted

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.250	19	18	$\frac{7}{64}$	.280	29
22	$\frac{7}{64}$	.280	23	18	$\frac{1}{32}$	.320	35
20	$\frac{3}{32}$	.250	20	16	$\frac{1}{32}$	.320	40
20	$\frac{7}{64}$	.280	25	16	$\frac{3}{32}$	.390	56
19	$\frac{3}{32}$	.250	22	14	$\frac{3}{32}$	.390	64
19	$\frac{7}{64}$	.280	28	14	$\frac{6}{32}$	.450	81

Three Solid Conductors—Twisted

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.275	29	18	$\frac{7}{64}$	.308	43
22	$\frac{7}{64}$	.308	35	18	$\frac{1}{32}$	.352	53
20	$\frac{3}{32}$	.275	31	16	$\frac{1}{32}$	.352	59
20	$\frac{7}{64}$	.308	38	16	$\frac{3}{32}$	.429	84
19	$\frac{3}{32}$	.275	33	14	$\frac{3}{32}$	.429	96
19	$\frac{7}{64}$	.308	42	14	$\frac{6}{32}$	.495	121

Twisted Conductors, Saturated Cotton Braid— Hard Drawn Copper



Each conductor is braided with one well saturated cotton braid.

For outside use and for use in wet places, such as mines, packinghouses, etc.

Two Solid Conductors—Twisted Raised Thread Tracer in One Conductor

Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.250	19	18	$\frac{7}{64}$	.280	29
22	$\frac{7}{64}$	.280	23	18	$\frac{1}{32}$	.320	35
20	$\frac{3}{32}$	.250	20	16	$\frac{1}{32}$	.320	40
20	$\frac{7}{64}$	.280	25	16	$\frac{3}{32}$	.390	56
19	$\frac{3}{32}$	.250	22	14	$\frac{3}{32}$	.390	64
19	$\frac{7}{64}$	.280	28	14	$\frac{6}{32}$	.450	81

Three Solid Conductors—Twisted

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
22	$\frac{3}{32}$	.275	29	18	$\frac{7}{64}$	.308	43
22	$\frac{7}{64}$	.308	35	18	$\frac{1}{32}$	.352	53
20	$\frac{3}{32}$	.275	31	16	$\frac{1}{32}$	.352	59
20	$\frac{7}{64}$	.308	38	16	$\frac{3}{32}$	.429	84
19	$\frac{3}{32}$	.275	33	14	$\frac{3}{32}$	.429	96
19	$\frac{7}{64}$	.308	42	14	$\frac{6}{32}$	.495	120

Copper Clad Two Conductors

Size A.W.G.	Diam. Over Okonite Inches	Approx. O. D. Inches	Approx. Wt. Lbs., per 1000 Ft.	Size A.W.G.	Diam. Over Okonite Inches	Approx. O.D. Inches	Approx. Wt. Lbs., per 1000 Ft.
17	$\frac{7}{64}$	.280	30	..	..	..	..

Okonite Generator and Motor Lead Cable



The copper conductors are scientifically stranded to give the maximum life to the conductors. They are then insulated with Okonite insulation, which contains never less than 30 per cent by weight (over 60 per cent by volume) of the best quality of Upriver fine Para rubber, over which is applied two well saturated braids.

Used for mine reel cable, motor leads, generator leads, metal electrode cable, and starter cable.

Size A.W.G.	Number of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
4	133	$\frac{1}{64}$	.550	226
3	133	$\frac{1}{64}$	.595	285
2	133	$\frac{1}{64}$	.620	328

For other sizes and strandings see pages on flexible and extra flexible cables.

The above can also be furnished in accordance with your own specifications for stranding and outside finish.

Train Connector Cable



This cable has been used by the largest railroads in the country for the past 30 years and has given the most satisfactory service as our re-orders indicate. The conductors are scientifically stranded and are insulated with Okonite insulation whose chief qualities are high insulation, toughness, and durability.

These cables are extremely flexible as the strandings indicate, and are, therefore, valuable in other service where extreme flexibility is desired.

Size A.W.G.	Number of Strands	Okonite Wall Inches	Braids	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
00	836	$\frac{5}{64}$	2	.875	649
2	259	$\frac{1}{64}$	2	.615	314
2	133	$\frac{1}{64}$	2	.620	328
00	836	..	None	.813	613
2	259	..	"	.656	341

Okonite Storage Battery Connector Cable

Plain Insulation



We especially recommend Okonite insulation for this service because it resists strong acid solution longer than any other insulating compound made.

We list the sizes generally used. However, other sizes will be found elsewhere in this catalogue.

Size A.W.G.	Number of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
10	37	$\frac{3}{64}$	.220	59
8	37	$\frac{3}{64}$	.245	76
6	61	$\frac{1}{64}$	.315	125
4	61	$\frac{1}{64}$	.360	178
2	133	$\frac{1}{64}$	.425	268

DO YOU REALIZE that Okonite insulation is applied to the conductor by the strip process and rigidly held in place in a metal mould until vulcanized.

DO YOU REALIZE that this metal mould not only insures perfect centering of the conductor, but also produces a more dense product than can be obtained by any other method.



Okonite Railway Wire and Cable

While there is no service which is so severe on insulation as railway service, there is none where reliability is of such vital importance.

To insure safety, railroad engineers realize that the best and most reliable insulated wire must be used, whether for a railroad signal, a dispatcher's telephone or a shop tool, and also, that the best is the most economical regardless of initial cost.

That Okonite is particularly adapted to the exacting requirements of this service has been well recognized in railroad engineering practice for many years and is evidenced by the fact that most of the leading trunk line and electric railroads in this country have adopted Okonite as standard, many using it exclusively.

Signal Wires

Okonite signal wires are made to meet the requirements of the particular service for which they are intended and may be solid or stranded conductor, any thickness of insulation and any finish.

On preceding pages is given data on single conductor braided or taped and for 660-volt service. The tape used is heavily coated friction tape, laid with one-quarter overlap. The braid is long fibre cotton saturated with a special weatherproof preservative compound.

Single wires and multiple conductor cables for any voltage can be furnished with any of the following finishes:

Cotton, linen, asbestos, steel wire braids, Okoloom, lead sheath, steel tape armor with or without lead (Parkway Cable), steel wire armor with or without lead (Submarine Cable).

Full data on request.

Car Wire



Jumper Cable with Belt for Multiple Unit Train

Car wires and cables are made in great variety of sizes and stranding and number of conductors.

For wiring car bodies, we recommend the stranded, braided wire. For motor leads, jumpers between cars, etc., extra flexible construction is recommended. Any special stranding can also be furnished.

The use of a separator between the conductor and the insulation is not recommended and will not be furnished unless specified.

Multiple conductor cables of any size and number of conductors and with or without rubber belt, can be furnished with any of the following finishes:

Cotton Braid—Colored, weatherproof or flameproof saturation.

Linen Braid—Dry black, weatherproof or flameproof saturation.

Asbestos Braid—Dry or flameproof saturation.

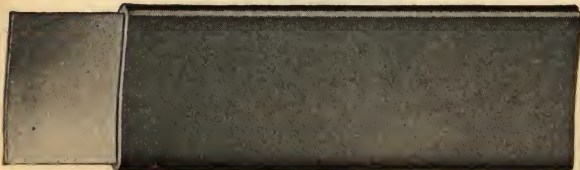
Okoloom—Weatherproof or flameproof saturation.

Steel Wire Braid.

Standard weatherproof saturation is black, flameproof is gray.

Unless otherwise specified, cotton braid with weatherproof saturation will be furnished.

Plough Leads



These leads were developed to meet the needs of the electric roads using sub-surface contact rails, (slot system) and are intended to be built into the ploughs.

The standard size has tinned copper conductors, $\frac{3}{8} \times 1\frac{3}{4}$ -inch insulated with $\frac{5}{16}$ -inch wall of Okonite plain. Over all dimensions approximately, 0.2×1.345 inches. Weight, 380 pounds per 1000 feet. Can be furnished in 300 to 400-foot lengths without splice in conductor.

Other sizes can be manufactured to meet any requirements.

Okonite Multiple Conductor Cable

For Signal, Telegraph, Telephone, Etc.



19-conductor Submarine Cable



16-conductor Aerial Cable



37-conductor Aerial Cable

The Okonite Company is well equipped to manufacture multiple conductor cables of any number and size conductors or of twisted pairs, and having Okonite insulation or varnished cambric insulation.

The number of conductors or pairs which lay up best, all conductors being of the same size, are as follows, the series being placed in order of preference:

1st Series:	7, 19, 37, 61, 91, 127, 169, 217, etc.
2nd "	3, 12, 27, 48, 75, 108, 147, 192, etc.
3rd "	4, 14, 30, 52, 80, 114, 154, 200, etc.

Any number of conductors or pairs, however, can be cabled.

Individual wires may be plain, taped or braided, black saturated or colored.

Any of the following outside finishes can be furnished:

Cotton, linen, asbestos or steel wire braid.

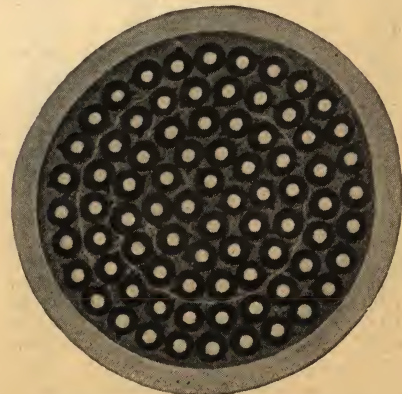
Okoloom.

Lead sheath.

Steel tape armor with or without lead (Parkway Cable).

Steel wire armor with or without lead (Submarine Cable).

Full data on request.



80-conductor Lead-covered Cable



Okonite Signal Wire

Single Conductor—660 Volts

Size A.W.G.	Number of Strands	Okonite Wall Inches	Single Braid		Tape and Braid	
			Diam. In.	Wt. Lbs. per 1000 Ft.	Diam. In.	Wt. Lbs. per 1000 Ft.
18	1	$\frac{3}{32}$	.123	13	.188	18
	1	$\frac{3}{64}$	.165	21	.225	28
	1	$\frac{1}{32}$	.200	28	.260	36
	7	$\frac{3}{32}$	.140	15	.200	22
	7	$\frac{3}{64}$	.175	21	.230	29
	7	$\frac{1}{32}$	.210	29	.270	37
	19	$\frac{3}{32}$	.140	15	.200	22
	19	$\frac{3}{64}$	.180	24	.235	31
	19	$\frac{1}{32}$	.210	30	.270	38
	16	$\frac{1}{32}$	.133	18	.198	24
16	1	$\frac{3}{64}$	.175	23	.235	31
	1	$\frac{1}{32}$	.225	33	.290	43
	7	$\frac{1}{32}$	.155	20	.215	27
	7	$\frac{3}{64}$	.195	27	.255	34
	7	$\frac{1}{32}$	.235	35	.300	44
	19	$\frac{1}{32}$	.150	20	.215	27
	19	$\frac{3}{64}$	.190	29	.250	36
	19	$\frac{1}{32}$	.220	34	.300	43
	14	$\frac{1}{32}$	.235	39	.300	48
	1	$\frac{3}{64}$	.270	47	.330	58
14	7	$\frac{1}{32}$	.245	43	.315	53
	7	$\frac{3}{64}$	.305	59	.345	67
	19	$\frac{1}{32}$	.240	46	.310	56
	19	$\frac{3}{64}$	.305	58	.345	66
	12	$\frac{1}{32}$	.255	53	.310	64
	1	$\frac{3}{64}$	.310	64	.350	72
	7	$\frac{1}{32}$	.265	55	.335	66
	7	$\frac{3}{64}$	.325	69	.365	79
	37	$\frac{1}{32}$	.260	52	.330	64
	37	$\frac{3}{64}$	.320	68	.360	76
10	1	$\frac{1}{32}$	.300	71	.340	79
	1	$\frac{3}{64}$	.330	81	.380	89
	7	$\frac{1}{32}$	.310	77	.360	86
	7	$\frac{3}{64}$	.350	89	.400	98
	37	$\frac{1}{32}$	.320	79	.360	87
	37	$\frac{3}{64}$	.360	93	.410	101
	9	$\frac{1}{32}$	.310	81	.350	88
	1	$\frac{3}{64}$	.345	95	.395	104
	7	$\frac{1}{32}$	.335	88	.385	98
	7	$\frac{3}{64}$	.370	104	.420	113
8	37	$\frac{1}{32}$	.345	100	.395	110
	37	$\frac{3}{64}$	.375	113	.425	122
	1	$\frac{3}{64}$	.360	108	.410	116
	1	$\frac{1}{32}$	.375	118	.435	127
	7	$\frac{3}{64}$	.380	116	.430	125
	7	$\frac{1}{32}$	.405	132	.465	144
	37	$\frac{3}{64}$	.380	119	.430	127
	37	$\frac{1}{32}$	.415	129	.465	140
	6	$\frac{1}{32}$	.380	144	.440	152
	1	$\frac{3}{64}$	.410	158	.470	168
6	1	$\frac{1}{32}$	.420	161	.470	171
	7	$\frac{3}{64}$	.445	178	.505	189
	7	$\frac{1}{32}$	.415	157	.465	167
	61	$\frac{3}{64}$	.455	173	.505	185
	4	$\frac{1}{32}$	.430	200	.480	211
	1	$\frac{3}{64}$	.455	220	.515	230
	7	$\frac{1}{32}$	.470	222	.520	234
	7	$\frac{3}{64}$	.490	239	.550	251
	61	$\frac{3}{64}$	.460	220	.510	231
	61	$\frac{1}{32}$	.500	241	.550	254
2	1	$\frac{1}{32}$	.550	338	.610	352
	1	$\frac{3}{64}$	.590	359	.630	373
	19	$\frac{1}{32}$	.610	361	.650	375
	19	$\frac{3}{64}$	.630	382	.680	397
	61	$\frac{1}{32}$	.610	373	.650	387
	61	$\frac{3}{64}$	.630	393	.680	408
	1	$\frac{1}{32}$	.640	427	.690	441
	19	$\frac{3}{64}$	.670	452	.720	467
	61	$\frac{1}{32}$	.645	447	.685	462
	61	$\frac{3}{64}$	.670	469	.720	485
0	19	$\frac{1}{32}$	.690	505	.730	521
	19	$\frac{3}{64}$	.700	525	.760	541
	91	$\frac{1}{32}$	.720	583	.770	600
	91	$\frac{3}{64}$	.740	594	.800	610

Okonite insulation is not affected by extreme temperature changes, lime, mortar, commercial acids, or alkalis.
For insulation resistance, see table on another page.

Okoloom



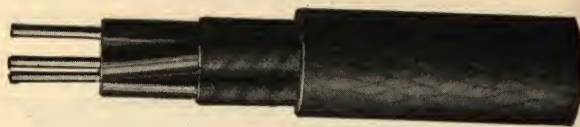
A loom weave for use in place of the ordinary braid where the wire, cord or cable is subjected to rough usage.

Specially twisted heavy long fibre cotton is first saturated with a special preservative and is then woven on (not braided) and afterwards saturated with a weatherproofing compound.

The result is a weave similar to that on a fire hose, and gives a splendid mechanical protection to the insulation. Its use is recommended in any service where heavy abrasive conditions are present.

This covering is applied to cords; to single flexible cables; to extra flexible cables; aerial cables; and to solid or stranded conductors.

Okonite Wire with Outer Covering of Okoloom



For use in shops, round houses, mines and for signals.

Single Conductor

Size A.W.G.	No. of Strands per Conductor	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
14	1	$\frac{3}{64}$	.320	52
12	1	$\frac{3}{64}$	.335	61
10	1	$\frac{3}{64}$	.350	77
8	1	$\frac{3}{64}$	.385	104

Two Conductors—Parallel

14	1	$\frac{3}{64}$	.315x.475	95
12	1	$\frac{3}{64}$	.330x.505	112
10	1	$\frac{3}{64}$	.355x.550	146
8	1	$\frac{3}{64}$	.385x.610	198

Three Conductors

14	1	$\frac{3}{64}$	.515	131
12	1	$\frac{3}{64}$	.545	157
10	1	$\frac{3}{64}$	.590	208
8	1	$\frac{3}{64}$	.655	281

Okonite Locomotive Wire

For use in wiring locomotives, electric cars, and similar purposes where a flameproof wire is desired.

Consists of a solid, stranded or flexible conductor insulated with Okonite insulation for 600-volt service and then braided over all with two flame proof braids.



Single Conductor—Solid

Size A.W.G.	Number of Strands	Okonite Wall Inches	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
14	1	$\frac{3}{64}$	.245	47
12	1	$\frac{3}{64}$	.270	58
10	1	$\frac{3}{64}$	.290	75
8	1	$\frac{3}{64}$	.360	105

Single Conductor—Stranded

14	7	$\frac{3}{64}$	.270	52
12	7	$\frac{3}{64}$	.290	67
10	7	$\frac{3}{64}$	.315	84
8	7	$\frac{3}{64}$	.385	115

Single Conductor—Flexible

14	19	$\frac{3}{64}$	.265	51
12	37	$\frac{3}{64}$	.265	58
10	37	$\frac{3}{64}$	.300	85
8	37	$\frac{3}{64}$	.365	119

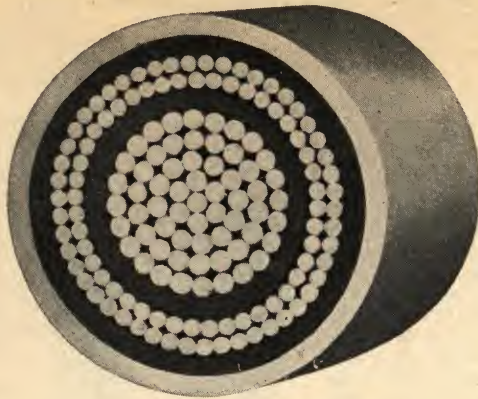
Data and prices on other sizes, strandings, wall of insulation and braids upon request.

DO YOU REALIZE that the difference in cost between Okonite and Code grade is a very small percentage of the total cost of an electrical installation.



Okonite Lead-covered Wire and Cable

N. E. C. Walls of Insulation and Lead



Two Conductor Concentric Cable

We call your attention to Okonite lead-covered cables as embodying many valuable features for the most exacting and difficult underground service, particularly when exposed to extremes of temperature, which are liable to be encountered even during ordinary service.

The cable is first laid up with carefully selected tinned copper wire, then insulated with Okonite, then served with a rubber-impregnated tape, and finally covered with a lead sheath.

Thus is produced a lead-covered cable, in which the conductors always remain centered in the insulation, even under high temperature. The lead walls are of uniform thickness, free from pinholes, and of sufficient solidity to prevent injury or rupture while being drawn through conduits.

In addition to the Okonite lead-covered cables listed, we are prepared to furnish Okonite lead-covered cables with two, three or four conductors.

Look for the Single Ridge



Registered in U. S. Patent Office

All Okonite Insulated wires carry this trade-mark, a single ridge on the insulation, under the braid, running parallel to the conductor.

Look for the Single Ridge



The ridge is registered in the United States Patent Office and the right of the Okonite Company to its exclusive use will be fully protected.

DO YOU REALIZE that The Okonite Company is the only company in the United States that manufactures high grade 30 per cent rubber covered wire exclusively—and has never made a lower grade.

Okonite Lead-covered Wire and Cable

N. E. C. Walls of Insulation and Lead

600 Volts

Single Conductor—Solid

Size A.W.G.	No. of Strands	Okonite Wall In.	Lead Wall In.	Insulation Resistance Megohm Miles	Approx. Diam. In.	Approx. Wt. Lbs. per 1000 Ft.
14	1	$\frac{3}{64}$	$\frac{2}{64}$	3000	.255	157
12	1	$\frac{3}{64}$	$\frac{2}{64}$	2700	.270	172
10	1	$\frac{3}{64}$	$\frac{2}{64}$	2400	.325	280
8	1	$\frac{3}{64}$	$\frac{3}{64}$	1800	.350	322

Duplex Conductors—Solid (Laid Parallel)

14	1	$\frac{3}{64}$	$\frac{2}{64}$	3000	.275x.485	283
12	1	$\frac{3}{64}$	$\frac{2}{64}$	2700	.320x.545	417
10	1	$\frac{3}{64}$	$\frac{3}{64}$	2400	.340x.585	473
8	1	$\frac{3}{64}$	$\frac{3}{64}$	1800	.370x.645	560

Single Conductor—Stranded

14	7	$\frac{3}{64}$	$\frac{2}{64}$	3000	.270	168
12	7	$\frac{3}{64}$	$\frac{2}{64}$	2700	.290	192
10	7	$\frac{3}{64}$	$\frac{3}{64}$	2400	.345	302
8	7	$\frac{3}{64}$	$\frac{3}{64}$	1800	.375	350
6	7	$\frac{4}{64}$	$\frac{4}{64}$	2100	.475	560
4	7	$\frac{5}{64}$	$\frac{5}{64}$	1750	.525	665
3	7	$\frac{5}{64}$	$\frac{5}{64}$	1600	.555	736
2	19	$\frac{4}{64}$	$\frac{4}{64}$	1500	.580	800
1	19	$\frac{5}{64}$	$\frac{5}{64}$	1600	.655	962
0	19	$\frac{5}{64}$	$\frac{5}{64}$	1300	.685	1060
00	19	$\frac{5}{64}$	$\frac{4}{64}$	1200	.735	1207
000	19	$\frac{5}{64}$	$\frac{5}{64}$	1050	.785	1381
0000	19	$\frac{5}{64}$	$\frac{5}{64}$	1000	.835	1560

C. M. Sizes

250000	19	$\frac{6}{64}$	$\frac{5}{64}$	1000	.950	2073
300000	37	$\frac{6}{64}$	$\frac{5}{64}$	950	1.015	2349
400000	37	$\frac{6}{64}$	$\frac{5}{64}$	850	1.115	2822
500000	61	$\frac{6}{64}$	$\frac{5}{64}$	750	1.200	3261
600000	61	$\frac{7}{64}$	$\frac{6}{64}$	800	1.360	4187
700000	61	$\frac{7}{64}$	$\frac{6}{64}$	750	1.420	4572
800000	91	$\frac{7}{64}$	$\frac{6}{64}$	700	1.480	4975
900000	91	$\frac{7}{64}$	$\frac{6}{64}$	675	1.560	5515
1000000	91	$\frac{7}{64}$	$\frac{6}{64}$	650	1.600	5772
1500000	127	$\frac{8}{64}$	$\frac{7}{64}$	575	1.915	8241
2000000	127	$\frac{8}{64}$	$\frac{7}{64}$	500	2.170	10553

1500 Volts

Single Conductor—Stranded

Size A.W.G.	Number of Strands	Okonite Wall Inches	Ins. Resist. Megohm Miles	Lead Wall In.	Approx. Diam. In.	Approx. Wt. Lbs. per 1000 Ft.
14	1	$\frac{9}{64}$	5100	$\frac{3}{64}$	.400	345
	7	$\frac{9}{64}$	5100	$\frac{3}{64}$	.415	355
12	1	$\frac{9}{64}$	4500	$\frac{3}{64}$	.415	367
	7	$\frac{9}{64}$	4500	$\frac{3}{64}$	.430	386
10	1	$\frac{9}{64}$	3900	$\frac{3}{64}$	.435	403
	7	$\frac{9}{64}$	3900	$\frac{3}{64}$	.455	426
8	1	$\frac{9}{64}$	3350	$\frac{3}{64}$	.495	554
	7	$\frac{9}{64}$	3350	$\frac{3}{64}$	.515	585
6	1	$\frac{7}{64}$	3250	$\frac{3}{64}$	.555	667
	7	$\frac{7}{64}$	3250	$\frac{3}{64}$	.585	715
4	1	$\frac{7}{64}$	2750	$\frac{3}{64}$	.600	775
	7	$\frac{7}{64}$	2750	$\frac{3}{64}$	.635	833
3	7	$\frac{7}{64}$	2500	$\frac{3}{64}$	.665	910
2	19	$\frac{7}{64}$	2300	$\frac{3}{64}$	.695	982
1	19	$\frac{8}{64}$	2350	$\frac{3}{64}$	.760	1133
0	19	$\frac{8}{64}$	1950	$\frac{3}{64}$	.800	1254
00	19	$\frac{8}{64}$	1750	$\frac{3}{64}$	.845	1398
000	19	$\frac{8}{64}$	1600	$\frac{3}{64}$	.900	1585
0000	19	$\frac{8}{64}$	1450	$\frac{3}{64}$	.950	1770

C. M. Sizes

250000	19	$\frac{9}{64}$	1400	$\frac{5}{64}$	1.065	2320
300000	37	$\frac{9}{64}$	1300	$\frac{5}{64}$	1.130	2600
400000	37	$\frac{9}{64}$	1150	$\frac{5}{64}$	1.230	3087
500000	61	$\frac{9}{64}$	1050	$\frac{5}{64}$	1.310	3510
600000	61	$\frac{10}{64}$	1100	$\frac{6}{64}$	1.470	4470
700000	61	$\frac{10}{64}$	1000	$\frac{6}{64}$	1.535	4877
800000	91	$\frac{10}{64}$	950	$\frac{6}{64}$	1.600	5299
900000	91	$\frac{10}{64}$	925	$\frac{6}{64}$	1.675	5822
1000000	91	$\frac{10}{64}$	900	$\frac{6}{64}$	1.710	6068
1500000	127	$\frac{10}{64}$	700	$\frac{7}{64}$	2.000	8522
2000000	127	$\frac{10}{64}$	625	$\frac{8}{64}$	2.285	11329



Okonite Lead-covered Wire and Cable

Okonite Lead-covered Wire and Cable

N. E. C. Walls of Insulation and Lead

2500 Volts

Single Conductor—Stranded

Size A.W.G.	Number of Strands	Okonite Wall Inches	Ins. Resist. Megohm Miles	Lead Wall In.	Approx. Diam. In.	Approx. Wt. Lbs. per 1000 Ft.
12	1	$\frac{3}{64}$	5300	$\frac{1}{64}$	.505	545
	7	$\frac{3}{64}$	5300	$\frac{1}{64}$	.520	567
10	1	$\frac{3}{64}$	4700	$\frac{1}{64}$	.530	593
	7	$\frac{3}{64}$	4700	$\frac{1}{64}$	.545	616
8	1	$\frac{3}{64}$	4100	$\frac{1}{64}$	.555	645
	7	$\frac{3}{64}$	4100	$\frac{1}{64}$	.580	685
6	1	$\frac{3}{64}$	3500	$\frac{1}{64}$	.620	772
	7	$\frac{3}{64}$	3500	$\frac{1}{64}$	.650	820
4	1	$\frac{3}{64}$	3000	$\frac{1}{64}$	.660	872
	7	$\frac{3}{64}$	3000	$\frac{1}{64}$	.700	943
3	7	$\frac{3}{64}$	2800	$\frac{1}{64}$	.730	1020
2	19	$\frac{3}{64}$	2550	$\frac{1}{64}$	.760	1097
1	19	$\frac{10}{64}$	2750	$\frac{1}{64}$	.825	1250
0	19	$\frac{10}{64}$	2250	$\frac{1}{64}$	.865	1377
00	19	$\frac{10}{64}$	2100	$\frac{1}{64}$	.945	1783
000	19	$\frac{10}{64}$	1850	$\frac{5}{64}$	1.000	1992
0000	19	$\frac{10}{64}$	1750	$\frac{5}{64}$	1.050	2195
C.M. Sizes						
250000	19	$\frac{10}{64}$	1550	$\frac{5}{64}$	1.095	2392
300000	37	$\frac{10}{64}$	1400	$\frac{5}{64}$	1.160	2677
400000	37	$\frac{10}{64}$	1300	$\frac{5}{64}$	1.260	3166
500000	61	$\frac{10}{64}$	1150	$\frac{6}{64}$	1.370	3876
600000	61	$\frac{10}{64}$	1100	$\frac{6}{64}$	1.470	4470
700000	61	$\frac{10}{64}$	1000	$\frac{6}{64}$	1.535	4877
800000	91	$\frac{10}{64}$	950	$\frac{6}{64}$	1.600	5299
900000	91	$\frac{10}{64}$	925	$\frac{6}{64}$	1.675	5822
1000000	91	$\frac{10}{64}$	900	$\frac{6}{64}$	1.710	6068
1500000	127	$\frac{10}{64}$	700	$\frac{7}{64}$	2.000	8522
2000000	127	$\frac{10}{64}$	625	$\frac{8}{64}$	2.285	11329

N. E. C. Walls of Insulation and Lead

5000 Volts

Single Conductor—Stranded

Size A.W.G.	Number of Strands	Okonite Wall Inches	Ins. Resist. Megohm Miles	Lead Wall In.	Approx. Diam. In.	Approx. Wt. Lbs. per 1000 Ft.
8	1	$\frac{12}{64}$	5200	$\frac{1}{64}$	.655	812
	7	$\frac{12}{64}$	5200	$\frac{1}{64}$	.685	864
6	1	$\frac{12}{64}$	4500	$\frac{1}{64}$	.695	903
	7	$\frac{12}{64}$	4500	$\frac{1}{64}$	.725	953
4	1	$\frac{12}{64}$	3950	$\frac{1}{64}$	.735	1011
	7	$\frac{12}{64}$	3950	$\frac{1}{64}$	.775	1084
3	7	$\frac{12}{64}$	3700	$\frac{1}{64}$	.805	1166
2	19	$\frac{12}{64}$	3350	$\frac{1}{64}$	.830	1239
1	19	$\frac{12}{64}$	3100	$\frac{1}{64}$	.865	1343
0	19	$\frac{12}{64}$	2600	$\frac{1}{64}$	.940	1725
00	19	$\frac{12}{64}$	2350	$\frac{1}{64}$	.980	1886
000	19	$\frac{12}{64}$	2250	$\frac{5}{64}$	1.040	2105
0000	19	$\frac{12}{64}$	2000	$\frac{5}{64}$	1.090	2313
C.M. Sizes						
250000	19	$\frac{12}{64}$	1800	$\frac{5}{64}$	1.140	2542
300000	37	$\frac{12}{64}$	1700	$\frac{5}{64}$	1.210	2840
400000	37	$\frac{12}{64}$	1500	$\frac{5}{64}$	1.300	3311
500000	61	$\frac{12}{64}$	1400	$\frac{5}{64}$	1.420	4079
600000	61	$\frac{12}{64}$	1300	$\frac{5}{64}$	1.535	4676
700000	61	$\frac{12}{64}$	1200	$\frac{5}{64}$	1.595	5077
800000	91	$\frac{12}{64}$	1150	$\frac{5}{64}$	1.660	5502
900000	91	$\frac{12}{64}$	1100	$\frac{5}{64}$	1.765	6394
1000000	91	$\frac{12}{64}$	1025	$\frac{5}{64}$	1.800	6650
1500000	127	$\frac{12}{64}$	950	$\frac{5}{64}$	2.105	9002
2000000	127	$\frac{12}{64}$	825	$\frac{8}{64}$	2.390	11874

3500 Volts

Single Conductor—Stranded

Size A.W.G.	Number of Strands	Okonite Wall Inches	Ins. Resist. Megohm Miles	Lead Wall In.	Approx. Diam. In.	Approx. Wt. Lbs. per 1000 Ft.
10	1	$\frac{10}{64}$	5300	$\frac{1}{64}$	.590	681
	7	$\frac{10}{64}$	5300	$\frac{1}{64}$	.610	714
8	1	$\frac{10}{64}$	4700	$\frac{1}{64}$	.615	739
	7	$\frac{10}{64}$	4700	$\frac{1}{64}$	.640	777
6	1	$\frac{10}{64}$	4050	$\frac{1}{64}$	.650	816
	7	$\frac{10}{64}$	4050	$\frac{1}{64}$	.680	868
4	1	$\frac{10}{64}$	3500	$\frac{1}{64}$	.695	928
	7	$\frac{10}{64}$	3500	$\frac{1}{64}$	.730	991
3	7	$\frac{10}{64}$	3250	$\frac{1}{64}$	.760	1073
2	19	$\frac{10}{64}$	3000	$\frac{1}{64}$	.790	1148
1	19	$\frac{10}{64}$	2750	$\frac{1}{64}$	.825	1250
0	19	$\frac{10}{64}$	2250	$\frac{1}{64}$	.865	1377
00	19	$\frac{10}{64}$	2100	$\frac{1}{64}$	.945	1783
000	19	$\frac{10}{64}$	1850	$\frac{5}{64}$	1.000	1992
0000	19	$\frac{10}{64}$	1750	$\frac{5}{64}$	1.050	2195
C.M. Sizes						
250000	19	$\frac{11}{64}$	1650	$\frac{5}{64}$	1.130	2476
300000	37	$\frac{11}{64}$	1500	$\frac{5}{64}$	1.190	2758
400000	37	$\frac{11}{64}$	1350	$\frac{5}{64}$	1.290	3251
500000	61	$\frac{11}{64}$	1250	$\frac{5}{64}$	1.405	3981
600000	61	$\frac{12}{64}$	1300	$\frac{5}{64}$	1.535	4676
700000	61	$\frac{12}{64}$	1200	$\frac{5}{64}$	1.595	5077
800000	91	$\frac{12}{64}$	1150	$\frac{5}{64}$	1.660	5502
900000	91	$\frac{12}{64}$	1100	$\frac{5}{64}$	1.765	6394
1000000	91	$\frac{12}{64}$	1025	$\frac{5}{64}$	1.800	6650
1500000	127	$\frac{12}{64}$	825	$\frac{5}{64}$	2.065	8784
2000000	127	$\frac{12}{64}$	725	$\frac{8}{64}$	2.345	11612

7000 Volts

Single Conductor—Stranded

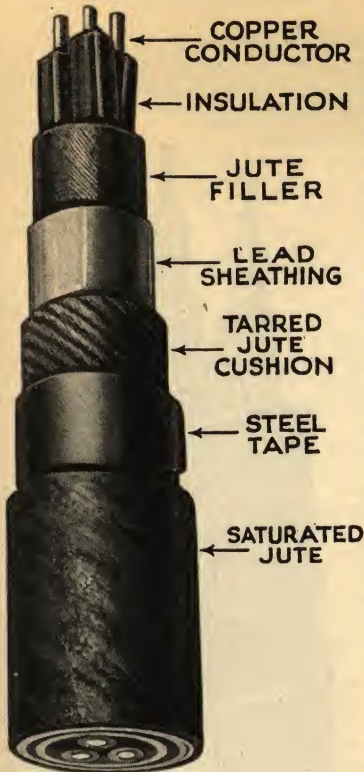
Size A.W.G.	Number of Strands	Okonite Wall Inches	Ins. Resist. Megohm Miles	Lead Wall In.	Approx. Diam. In.	Approx. Wt. Lbs. per 1000 Ft.
8	1	$\frac{16}{64}$	5950	$\frac{1}{64}$	.820	1262
	7	$\frac{16}{64}$	5950	$\frac{1}{64}$	.850	1326
6	1	$\frac{16}{64}$	5400	$\frac{1}{64}$	.850	1353
	7	$\frac{16}{64}$	5400	$\frac{1}{64}$	.890	1439
4	1	$\frac{16}{64}$	4700	$\frac{1}{64}$	.900	1498
	7	$\frac{16}{64}$	4700	$\frac{1}{64}$	.940	1589
3	7	$\frac{16}{64}$	4500	$\frac{1}{64}$	.970	1683
2	19	$\frac{16}{64}$	4150	$\frac{1}{64}$	.990	1757
1	19	$\frac{16}{64}$	3825	$\frac{1}{64}$	1.030	1890
0	19	$\frac{16}{64}$	3250	$\frac{1}{64}$	1.070	2036
00	19	$\frac{16}{64}$	3050	$\frac{1}{64}$	1.110	2196
000	19	$\frac{16}{64}$	2800	$\frac{1}{64}$	1.170	2434
0000	19	$\frac{16}{64}$	2600	$\frac{1}{64}$	1.220	2649
C.M. Sizes						
250000	19	$\frac{16}{64}$	2250	$\frac{5}{64}$	1.270	2870
300000	37	$\frac{16}{64}$	2150	$\frac{5}{64}$	1.360	3452
400000	37	$\frac{16}{64}$	1850	$\frac{5}{64}$	1.460	3985
500000	61	$\frac{16}{64}$	1700	$\frac{5}{64}$	1.540	4460
600000	61	$\frac{16}{64}$	1650	$\frac{5}{64}$	1.640	5080
700000	61	$\frac{16}{64}$	1550	$\frac{5}{64}$	1.730	5842
800000	91	$\frac{16}{64}$	1450	$\frac{5}{64}$	1.800	6319
900000	91	$\frac{16}{64}$	1400	$\frac{5}{64}$	1.870	6866
1000000	91	$\frac{16}{64}$	1350	$\frac{5}{64}$	1.910	7146
1500000	127	$\frac{16}{64}$	1150	$\frac{5}{64}$	2.260	10000
2000000	127	$\frac{16}{64}$	1050	$\frac{8}{64}$	2.515	12475

DO YOU REALIZE that there are many Okonite installations that have been in service over twenty-five years and are still giving perfect satisfaction.

DO YOU REALIZE that the high and unvarying quality of Okonite has made it the acknowledged standard for rubber insulation among Electrical Engineers.



Okonite Steel Taped Parkway Cable



The placing of electric wires underground has, probably, contributed more largely to the beautifying of our various large cities than any other one thing. The old overhead construction, besides being unsightly, was at all times plainly at the mercy of the elements. The building of conduit systems into which lead-covered cables, embracing many circuits, were pulled at once, eliminated all unsightliness and rendered all circuits practically immune from weather disturbances.

But for park and boulevard lighting, the connecting up of outlying residential districts, isolated sections of police and fire alarm systems, railroad signal, telegraph and lighting circuits, etc., the cost of a conduit system was, in some cases, considered prohibitive. For such

places a less expensive form of underground construction was sought and found in the development of the Parkway or Steel Taped Cable. This cable, quite extensively used in Europe before its introduction into this country, is comparatively simple in construction and in effect a combined conduit and cable. Okonite Steel Taped Cable may, therefore, be safely buried in the ground without ducts.

The well-known characteristics of Okonite insulation for toughness, durability and insulating qualities, compounded as it is with 30 per cent of fine Dry Up River Para rubber, unquestionably make it ideal for this purpose. In the final analysis it is always the character of the insulation that measures the effectiveness of insulated wires or cables. Therefore, the importance of securing Okonite insulation in such installations is emphasized by the fact that once installed, the only way to get at a cable of this type, developing trouble, is to dig it up.

In the accompanying illustration we show an Okonite lead-covered and steel-taped cable. The insulated conductors are imbedded in soft, saturated jute and lead covered. Around the lead is placed a jute cushion, then two layers of steel tape wrapped on in the same direction, one layer overlapping the other. Thus wrapped, the protecting steel tapes leave no opening through which the lead or the core of the cable might be injured, and permits the full flexibility of the cable to be realized. The steel tapes are then served with a wrapping of heavily impregnated jute.

To install steel-taped cables it is only necessary to dig a trench the width of a spade, fifteen to eighteen inches deep, lay in the cable and back-fill. A distinct advantage is that a path of easiest digging may be selected, as the surface disturbance is so slight that no route need be forbidden for fear of unsightly after effects.

Steel taped cables can be furnished with any number of conductors and for all commercial voltages, having either Okonite Insulation or Varnished Cambric Insulation and with or without lead sheath under the armor.

Full information on sizes not given in this catalogue, will be furnished upon request. In asking for prices be sure to specify the size of the conductors in American wire gauge, the working voltage of the service, whether for direct or alternating current, and other information which you believe will allow us to quote on your exact requirements.

Okonite Steel Taped Parkway Cable

600 Volts

Single Conductor

Size	No. of Strands	Okonite Wall	Lead Wall	Steel Tape	Ins. Resist	Approx. Diam.	*Approx. Wt., Lbs. per 1000 Ft.
in.		in.	in.	in.	Megohm Miles	in.	
12	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2700	.615	421
10	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2400	.665	537
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	1800	.695	592
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2100	.760	744
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.020	1950	.840	923

2 Conductors—Parallel

12	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2700	.645x	738
10	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2400	.665x	812
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	1800	.695x	919
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2100	.760x1.050	1149
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.020	1950	.840x1.210	1471

3 Conductors

12	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2700	.855	882
10	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2400	.900	975
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	1800	.965	1147
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	2100	1.160	1735
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.033	1950	1.365	2477

1500 to 2500 Volts

Single Conductor

10	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	3900	.760	707
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	3350	.790	775
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	2850	.820	850
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.020	2500	.900	1039

2 Conductors—Parallel

10	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	3900	.760x1.050	1077
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	3350	.790x1.110	1195
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	2850	.870x1.220	1593
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.033	2500	.950x1.380	1961

3 Conductors

10	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	3900	1.170	1648
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	3350	1.255	2045
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	2850	1.320	2247
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.033	2500	1.500	2863

2500 to 3500 Volts

Single Conductor

10	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	4700	.820	820
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	4100	.850	867
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.020	3500	.885	950
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.020	3000	.965	1160

2 Conductors—Parallel

10	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	4700	.875x1.230	1531
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	4100	.900x1.280	1647
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	3500	.935x1.350	1823
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.033	3000	1.045x1.540	2486

3 Conductors

10	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	4700	1.330	2157
8	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	4100	1.385	2341
6	1	$\frac{3}{64}$	$\frac{1}{16}$	.033	3500	1.460	2634
4	7	$\frac{1}{64}$	$\frac{1}{16}$	.033	3000	1.750	3741

3500 to 5000 Volts

Single Conductor

10	1	$\frac{12}{64}$	$\frac{3}{64}$	.020	5850	.950	1056
8	1	$\frac{12}{64}$	$\frac{3}{64}$	.020	5200	.975	1120
6	1	$\frac{12}{64}$	$\frac{3}{64}$	.020	4500	.990	1187
4	7	$\frac{12}{64}$	$\frac{3}{64}$	.033	3950	1.140	1690

2 Conductors—Parallel

10	1	$\frac{12}{64}$	$\frac{3}{64}$	.020	5850	1.030x1.510	2275
8	1	$\frac{12}{64}$	$\frac{3}{64}$	.033	5200	1.055x1.500	2406
6	1	$\frac{12}{64}$	$\frac{3}{64}$	.033	4500	1.090x1.630	2618
4	7	$\frac{12}{64}$	$\frac{3}{64}$	.033	3950	1.205x1.835	3450

3 Conductors

10	1	$\frac{12}{64}$	$\frac{3}{64}$	.033	5850	1.605	2909
8	1	$\frac{12}{64}$	$\frac{3}{64}$	.033	5200	1.770	3627
6	1	$\frac{12}{64}$	$\frac{3}{64}$	.033	4500	1.845	3915
4	7	$\frac{12}{64}$	$\frac{3}{64}$	.033	3950	2.045	4656

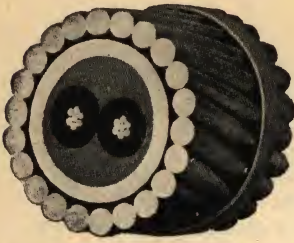
*Weight does not include reel.

DO YOU REALIZE that Okonite insulation is applied to the conductor by the strip process and rigidly held in place in a metal mould until vulcanized.

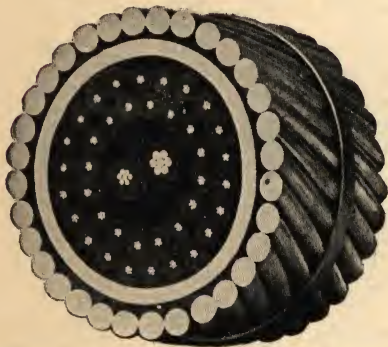


Okonite Submarine Cable

Okonite Multiple Conductor Power Cable



2-conductor Power Cable with Lead Sheath



40-conductor Signal Cable with Lead Sheath



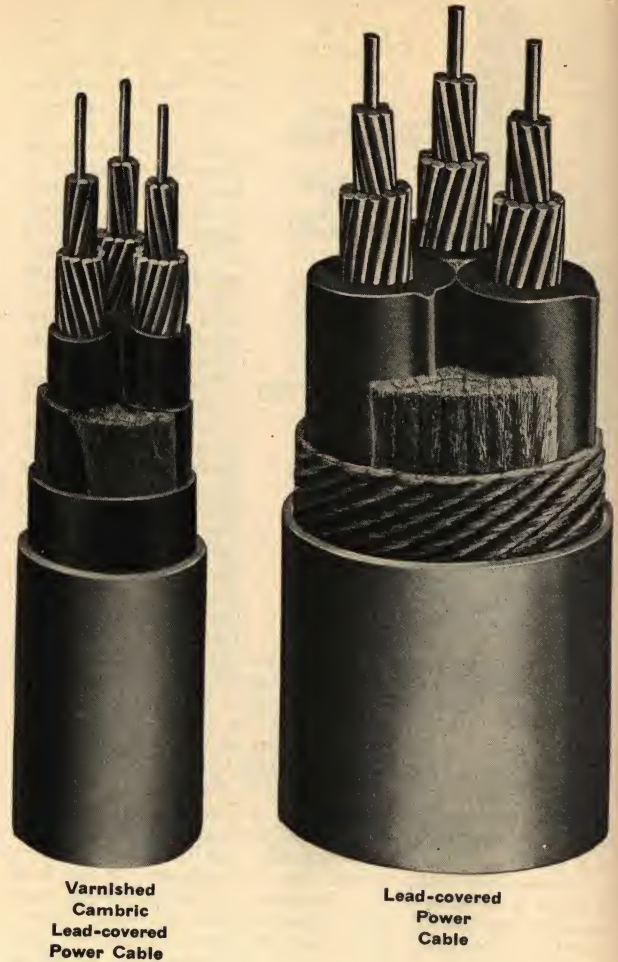
Submarine Power Cable with Lead Sheath



Submarine Power Cable without Lead Sheath

We are in a position to build submarine cables for telephone, telegraph, signal and power transmission, insulated with Okonite Insulation or Varnished Cambric Insulation.

We solicit your inquiries and orders.

Varnished
Cambric
Lead-covered
Power CableLead-covered
Power
Cable

Multiple conductor power cables are usually twin (two conductors parallel), duplex (two conductors twisted), triplex (three conductors twisted), four conductors twisted, or two conductors concentric.

The great variety of combinations possible, however, renders impracticable detail tables which will properly cover the field.

The Okonite Company is well equipped to manufacture multiple conductor power cables for any commercial voltage and as large as can be handled in the field, and insulated with Okonite, Varnished Cambric, or Okonite and Varnished Cambric in combination.

Any of the following outside finishes can be furnished:

Cotton, linen, asbestos or steel wire braid, Okoloom, lead sheath, steel tape armor with or without lead (Parkway cable), steel wire armor with or without lead (Submarine cable).

Full data furnished on request.



Okonite Varnished Cambric Insulated Cable



Varnished Cambric Braided Cable

Varnished Cambric Insulated cables, when properly made of high-class materials, are reliable and long-lived when installed under proper conditions.

Due to the fact that the insulation is composed of cloth, hard-baked varnish and filler, they are particularly well-fitted for use in hot and oily places, such as generator, transformer and oil switch leads. They may safely be used for fairly damp locations without a lead sheath, but are not as impervious to water as Okonite insulated wires and cables.

Okonite Varnished Cambric Insulation consists of layers of cloth tape which has been coated on both sides with an elastic hard-drying black varnish of high dielectric strength; the number of layers being determined by the service conditions under which the cable will operate. Between the layers a viscous non-drying insulating compound is applied which fills all spaces caused by the lapping of the tapes and also acts as a lubricant between layers of tapes when the cable is bent. Over the insulation any coverings desired may be applied, such as rubber filled tape, braid, lead armors, etc.

Unless otherwise specified, a cotton tape separator is applied between the copper and the Varnished cambric insulation, copper is untinned, and on lead sheath cables commercially pure lead is used.

The same care is used in the inspection and test of raw materials and in the manufacture of Okonite Varnished Cambric cables that characterizes all Okonite products.

Tables following give dimensions and weights of single conductor wires and cables. The thickness of insulations and of lead sheath is in accordance with the National Electric Code 1920.

Braided wire dimensions and weights are based on cotton braid thoroughly saturated with either a weatherproof preservative compound or a flameproof compound. Tape and braid will be approximately same weight and dimensions as double braid.

The Okonite Company is particularly well equipped to manufacture both large and small, single and multiple conductor varnished cambric power cables for any commercial voltage and with the following finishes:

Cotton, linen, asbestos, or steel wire braids, Okoloom, lead sheath, steel tape armor with or without lead (Parkway cable), steel wire armor with or without lead (Submarine cable).

Full data furnished upon request.



Twin Cable—Lead-covered

DO YOU REALIZE that The Okonite Company is the only company in the United States that manufactures high grade 30 per cent rubber covered wire exclusively—and has never made a lower grade.

Okonite Varnished Cambric Insulated Cable

Single Conductor—Single and Double Braid 600 Volts

Size A.W.G. or C.M.	No. Varnished of Cambric Strands Wall, In.	Single Braid		Double Braid	
		Diam. In.	Wt. Lbs., per 1000	Diam. In.	Wt. Lbs., per 1000 Ft.
6	1	$\frac{7}{64}$	114	.430	128
	7	$\frac{1}{64}$	127	.460	142
	61	$\frac{1}{64}$	114	.450	128
4	1	$\frac{7}{64}$	167	.470	183
	7	$\frac{1}{64}$	184	.510	210
	61	$\frac{1}{64}$	167	.495	183
3	1	$\frac{7}{64}$	203	.495	219
	7	$\frac{1}{64}$	225	.540	242
	61	$\frac{1}{64}$	210	.525	228
2	1	$\frac{7}{64}$	249	.525	268
	19	$\frac{1}{64}$	261	.565	280
	61	$\frac{1}{64}$	256	.555	274
1	1	$\frac{7}{64}$	319	.590	338
	19	$\frac{1}{64}$	332	.635	354
	61	$\frac{1}{64}$	329	.625	350
0	1	$\frac{7}{64}$	389	.620	410
	19	$\frac{1}{64}$	413	.695	445
	91	$\frac{1}{64}$	448	.715	481
00	19	$\frac{1}{64}$	503	.740	538
	91	$\frac{1}{64}$	550	.765	586
000	19	$\frac{1}{64}$	629	.795	667
	91	$\frac{1}{64}$	677	.840	716
0000	19	$\frac{1}{64}$	752	.865	792
	91	$\frac{1}{64}$	837	.900	879
250000	19	$\frac{1}{64}$	850	.940	945
	37	$\frac{1}{64}$	915	1.005	1131
300000	37	$\frac{1}{64}$	1015	1.105	1472
	61	$\frac{1}{64}$	1.130	1.250	1783
400000	61	$\frac{1}{64}$	1.260	1.380	2237
	61	$\frac{1}{64}$	1.320	1.440	2533
500000	91	$\frac{1}{64}$	1.385	1.505	2844
	91	$\frac{1}{64}$	1.460	1.580	3241
600000	91	$\frac{1}{64}$	1.495	1.620	3429
	127	$\frac{1}{64}$	1.790	1.910	5088
700000	127	$\frac{1}{64}$	2.040	2.160	6952
	127	$\frac{1}{64}$			

1500 Volts

6	1	$\frac{7}{64}$	144	.520	162
	7	$\frac{1}{64}$	158	.555	178
	61	$\frac{1}{64}$	145	.540	163
4	1	$\frac{7}{64}$	198	.565	217
	7	$\frac{1}{64}$	219	.605	240
	61	$\frac{1}{64}$	216	.590	238
3	1	$\frac{7}{64}$	237	.590	259
	7	$\frac{1}{64}$	262	.635	284
	61	$\frac{1}{64}$	245	.620	266
2	1	$\frac{7}{64}$	284	.620	305
	19	$\frac{1}{64}$	309	.680	341
	61	$\frac{1}{64}$	303	.670	335
1	1	$\frac{7}{64}$	365	.700	397
	19	$\frac{1}{64}$	383	.745	418
	61	$\frac{1}{64}$	380	.735	414
0	1	$\frac{7}{64}$	440	.735	474
	19	$\frac{1}{64}$	459	.785	496
	91	$\frac{1}{64}$	495	.805	533
00	19	$\frac{1}{64}$	553	.850	593
	91	$\frac{1}{64}$	601	.875	641
000	19	$\frac{1}{64}$	681	.905	723
	91	$\frac{1}{64}$	732	.930	775
0000	19	$\frac{1}{64}$	809	.955	854
	91	$\frac{1}{64}$	896	.970	942
250000	19	$\frac{1}{64}$	962	1.035	1011
	37	$\frac{1}{64}$	1.010	1.100	1204
300000	37	$\frac{1}{64}$	1.140	1.260	1553
	61	$\frac{1}{64}$	1.220	1.340	1878
400000	61	$\frac{1}{64}$	1.350	1.470	2334
	61	$\frac{1}{64}$	1.415	1.535	2634
500000	91	$\frac{1}{64}$	1.480	1.600	2951
	91	$\frac{1}{64}$	1.555	1.675	3352
600000	91	$\frac{1}{64}$	1.590	1.710	3545
	127	$\frac{1}{64}$	1.850	1.970	5178
700000	127	$\frac{1}{64}$	2.105	2.225	7062
	127	$\frac{1}{64}$			



Okonite Varnished Cambric Insulated Cable

Single Conductor—Single and Double Braid 2500 Volts

Size A. W. G. or C. M.	Number of Strands	Varnished Cambric Wall, In.	Single Braid		Double Braid	
			Diam. In.	Wt. Lbs. per 1000 Ft.	Diam. In.	Wt. Lbs. per 1000 Ft.
6	1	$\frac{9}{64}$	.515	165	.585	186
	7	$\frac{9}{64}$	.545	180	.615	202
	61	$\frac{9}{64}$	.535	166	.605	188
4	1	$\frac{9}{64}$	.560	222	.630	245
	7	$\frac{9}{64}$	.605	253	.685	285
	61	$\frac{9}{64}$	.590	241	.670	272
3	1	$\frac{9}{64}$	.590	271	.670	302
	7	$\frac{9}{64}$	.635	297	.715	330
	61	$\frac{9}{64}$	.620	277	.700	309
2	1	$\frac{9}{64}$	.620	320	.700	352
	19	$\frac{9}{64}$	.665	338	.745	373
	61	$\frac{9}{64}$	.650	328	.730	362
1	1	$\frac{10}{64}$	.685	397	.765	433
	19	$\frac{10}{64}$	.730	417	.810	455
	61	$\frac{10}{64}$	.720	413	.800	450
0	1	$\frac{10}{64}$	.720	474	.800	512
	19	$\frac{10}{64}$	.780	495	.870	536
	91	$\frac{10}{64}$	.800	533	.890	574
00	19	$\frac{10}{64}$	.825	591	.915	634
	91	$\frac{10}{64}$	.850	640	.940	684
000	19	$\frac{10}{64}$	.880	722	.970	767
	91	$\frac{10}{64}$	.900	774	.990	820
0000	19	$\frac{10}{64}$	.930	854	1.020	901
	91	$\frac{10}{64}$	.960	941	1.050	990
250000	19	$\frac{10}{64}$	.975	987	1.065	1037
300000	37	$\frac{10}{64}$	1.040	1176	1.130	1230
400000	37	$\frac{10}{64}$	1.170	1522	1.290	1583
500000	61	$\frac{10}{64}$	1.250	1835	1.370	1900
600000	61	$\frac{10}{64}$	1.350	2265	1.470	2334
700000	61	$\frac{10}{64}$	1.415	2562	1.535	2634
800000	91	$\frac{10}{64}$	1.480	2876	1.600	2951
900000	91	$\frac{10}{64}$	1.555	3274	1.675	3352
1000000	91	$\frac{10}{64}$	1.590	3462	1.710	3545
1500000	127	$\frac{10}{64}$	1.850	5084	1.970	5178
2000000	127	$\frac{10}{64}$	2.105	6956	2.225	7062

3500 Volts

6	1	$\frac{10}{64}$	.545	175	.615	196
	7	$\frac{10}{64}$	.585	201	.665	232
	61	$\frac{10}{64}$	.565	178	.635	200
4	1	$\frac{10}{64}$	.600	245	.680	275
	7	$\frac{10}{64}$	.635	268	.715	301
	61	$\frac{10}{64}$	.620	255	.700	287
3	1	$\frac{10}{64}$	.625	284	.705	317
	7	$\frac{10}{64}$	.665	314	.745	349
	61	$\frac{10}{64}$	.650	295	.730	329
2	1	$\frac{10}{64}$	.650	334	.730	368
	19	$\frac{10}{64}$	.695	354	.775	390
	61	$\frac{10}{64}$	.680	347	.760	382
1	1	$\frac{10}{64}$	.685	397	.765	433
	19	$\frac{10}{64}$	.730	417	.810	455
	61	$\frac{10}{64}$	.720	413	.800	450
0	1	$\frac{10}{64}$	.720	474	.800	512
	19	$\frac{10}{64}$	.780	495	.870	536
	91	$\frac{10}{64}$	.800	533	.890	574
00	19	$\frac{10}{64}$	.825	591	.915	634
	91	$\frac{10}{64}$	.850	640	.940	684
000	19	$\frac{10}{64}$	.880	722	.970	767
	91	$\frac{10}{64}$	.900	774	.990	820
0000	19	$\frac{10}{64}$	.930	854	1.020	901
	91	$\frac{10}{64}$	.960	941	1.050	990
250000	19	$\frac{11}{64}$	1.010	1013	1.100	1066
300000	37	$\frac{11}{64}$	1.070	1202	1.160	1257
400000	37	$\frac{11}{64}$	1.200	1551	1.320	1613
500000	61	$\frac{11}{64}$	1.285	1867	1.405	1933
600000	61	$\frac{12}{64}$	1.415	2331	1.535	2403
700000	61	$\frac{12}{64}$	1.475	2631	1.595	2706
800000	91	$\frac{12}{64}$	1.540	2947	1.660	3025
900000	91	$\frac{12}{64}$	1.615	3350	1.735	3434
1000000	91	$\frac{12}{64}$	1.650	3539	1.770	3625
1500000	127	$\frac{12}{64}$	1.915	5176	2.035	5273
2000000	127	$\frac{12}{64}$	2.165	7055	2.285	7136

Okonite Varnished Cambric Insulated Cable

Single Conductor—Single and Double Braid 5000 Volts

Size A. W. G. or C. M.	No. of Strands	Varnished Cambric Wall, In.	Single Braid		Double Braid	
			Diam. In.	Wt. Lbs. per 1000 Ft.	Diam. In.	Wt. Lbs. per 1000 Ft.
6	1	$\frac{12}{64}$	.620	213	.700	245
	7	$\frac{12}{64}$	.650	231	.730	265
	61	$\frac{12}{64}$	.640	215	.720	248
4	1	$\frac{12}{64}$	.660	274	.740	308
	7	$\frac{12}{64}$	.700	300	.780	336
	61	$\frac{12}{64}$	.685	286	.765	322
3	1	$\frac{12}{64}$	.685	316	.765	352
	7	$\frac{12}{64}$	.730	347	.810	385
	61	$\frac{12}{64}$	.715	329	.795	366
2	1	$\frac{12}{64}$	.715	368	.795	405
	19	$\frac{12}{64}$	.765	390	.855	430
	61	$\frac{12}{64}$	.755	382	.845	421
1	1	$\frac{12}{64}$	.755	431	.845	470
	19	$\frac{12}{64}$	.800	454	.890	495
	61	$\frac{12}{64}$	.790	450	.880	491
0	1	$\frac{12}{64}$	.790	510	.880	551
	19	$\frac{12}{64}$	.840	534	.930	578
	91	$\frac{12}{64}$	.860	573	.950	618
00	19	$\frac{12}{64}$	.885	632	.975	678
	91	$\frac{12}{64}$	.910	682	1.000	729
000	19	$\frac{12}{64}$	.940	766	1.030	814
	91	$\frac{12}{64}$	.965	819	1.040	869
0000	19	$\frac{12}{64}$	.990	897	1.080	948
	91	$\frac{12}{64}$	1.025	989	1.115	1043
250000	19	$\frac{12}{64}$	1.040	1037	1.130	1092
300000	37	$\frac{12}{64}$	1.130	1230	1.250	1289
400000	37	$\frac{12}{64}$	1.230	1579	1.340	1643
500000	61	$\frac{12}{64}$	1.315	1896	1.435	1964
600000	61	$\frac{12}{64}$	1.415	2331	1.535	2403
700000	61	$\frac{12}{64}$	1.475	2631	1.595	2706
800000	91	$\frac{12}{64}$	1.540	2947	1.660	3025
900000	91	$\frac{12}{64}$	1.615	3350	1.735	3434
1000000	91	$\frac{12}{64}$	1.650	3539	1.770	3625
1500000	127	$\frac{12}{64}$	1.975	5271	2.095	5371
2000000	127	$\frac{12}{64}$	2.230	7163	2.350	7274

7000 Volts

6	1	$\frac{16}{64}$	.740	279	.820	317
	7	$\frac{16}{64}$	.780	300	.860	341
	61	$\frac{16}{64}$	.770	284	.860	324
4	1	$\frac{16}{64}$	.795	345	.885	385
	7	$\frac{16}{64}$	.830	375	.920	417
	61	$\frac{16}{64}$	.820	360	.910	402
3	1	$\frac{16}{64}$	.820	389	.910	431
	7	$\frac{16}{64}$	.860	424	.950	468
	61	$\frac{16}{64}$	.850	404	.940	448
2	1	$\frac{16}{64}$	.850	444	.940	488
	19	$\frac{16}{64}$	.890	470	.980	515
	61	$\frac{16}{64}$	.880	461	.970	506
1	1	$\frac{16}{64}$	.880	510	.970	556
	19	$\frac{16}{64}$	.925	537	1.015	585
	61	$\frac{16}{64}$	.915	532	1.005	579
0	1	$\frac{16}{64}$	.915	592	1.005	639
	19	$\frac{16}{64}$	.965	621	1.055	671
	91	$\frac{16}{64}$	.985	663	1.075	714
00	19	$\frac{16}{64}$	1.010	725	1.100	788
	91	$\frac{16}{64}$	1.035	777	1.125	831
000	19	$\frac{16}{64}$	1.065	863	1.155	919
	91	$\frac{16}{64}$	1.090	920	1.180	977
0000	19	$\frac{16}{64}$	1.145	1003	1.265	1063
	91	$\frac{16}{64}$	1.180	1097	1.300	1158
250000	19	$\frac{16}{64}$	1.195	1143	1.315	1205
300000	37	$\frac{16}{64}$	1.255	1343	1.375	1408
400000	37	$\frac{16}{64}$	1.355	1702	1.475	1772
500000	61	$\frac{16}{64}$	1.440	2028	1.560	2102
600000	61	$\frac{16}{64}$	1.540	2472	1.660	2550
700000	61	$\frac{16}{64}$	1.600	2778	1.720	2861
800000	91	$\frac{16}{64}$	1.665	3101	1.785	3187
900000	91	$\frac{16}{64}$	1.740	3514	1.860	3603
1000000	91	$\frac{16}{64}$	1.775	3708	1.895	3799
1500000	127	$\frac{16}{64}$	2.100	5427	2.220	5533
2000000	127	$\frac{16}{64}$	2.355	7385	2.475	7502

**Okonite Varnished Cambric Insulated Cable****Single Conductor—Lead Covered
600 Volts**

Size A. W. G. of C. M.	Number of Strands	Varnished Cambric Wall, In.	Lead Wall In.	Diam. In.	Wt., Lbs. per 1000 Ft.
6	1	$\frac{3}{64}$	$\frac{1}{64}$	.415	459
	7	$\frac{3}{64}$	$\frac{1}{64}$	.445	500
4	1	$\frac{3}{64}$	$\frac{1}{64}$	.455	550
	7	$\frac{3}{64}$	$\frac{1}{64}$	.495	607
3	1	$\frac{3}{64}$	$\frac{1}{64}$	.480	623
	7	$\frac{3}{64}$	$\frac{1}{64}$	.525	676
2	1	$\frac{3}{64}$	$\frac{1}{64}$	.510	685
	19	$\frac{3}{64}$	$\frac{1}{64}$	.550	737
1	1	$\frac{5}{64}$	$\frac{1}{64}$	.575	818
	19	$\frac{5}{64}$	$\frac{1}{64}$	.620	876
0	1	$\frac{5}{64}$	$\frac{1}{64}$	.610	924
	19	$\frac{5}{64}$	$\frac{1}{64}$	.660	987
00	19	$\frac{5}{64}$	$\frac{1}{64}$	.705	1120
000	19	$\frac{5}{64}$	$\frac{1}{64}$	.760	1297
0000	19	$\frac{5}{64}$	$\frac{1}{64}$	.810	1469
250000	19	$\frac{5}{64}$	$\frac{1}{64}$	.920	1938
300000	37	$\frac{5}{64}$	$\frac{5}{64}$	.985	2203
400000	37	$\frac{5}{64}$	$\frac{5}{64}$	1.085	2663
500000	61	$\frac{5}{64}$	$\frac{5}{64}$	1.170	3073
600000	61	$\frac{5}{64}$	$\frac{5}{64}$	1.330	3959
700000	61	$\frac{7}{64}$	$\frac{5}{64}$	1.390	4339
800000	91	$\frac{7}{64}$	$\frac{5}{64}$	1.455	4742
900000	91	$\frac{7}{64}$	$\frac{5}{64}$	1.500	5244
1000000	91	$\frac{7}{64}$	$\frac{5}{64}$	1.565	5490
1500000	127	$\frac{8}{64}$	$\frac{7}{64}$	1.890	7939
2000000	127	$\frac{8}{64}$	$\frac{7}{64}$	2.140	10208
1500 Volts					
6	1	$\frac{7}{64}$	$\frac{1}{64}$	.505	575
	7	$\frac{7}{64}$	$\frac{1}{64}$	.540	623
4	1	$\frac{7}{64}$	$\frac{1}{64}$	.550	674
	7	$\frac{7}{64}$	$\frac{1}{64}$	.590	734
3	1	$\frac{7}{64}$	$\frac{1}{64}$	.575	736
	7	$\frac{7}{64}$	$\frac{1}{64}$	.620	805
2	1	$\frac{7}{64}$	$\frac{1}{64}$	.605	813
	19	$\frac{7}{64}$	$\frac{1}{64}$	.645	868
1	1	$\frac{8}{64}$	$\frac{1}{64}$	.665	943
	19	$\frac{8}{64}$	$\frac{1}{64}$	.680	974
0	1	$\frac{8}{64}$	$\frac{1}{64}$	.700	1052
	19	$\frac{8}{64}$	$\frac{1}{64}$	.750	1118
00	19	$\frac{8}{64}$	$\frac{1}{64}$	.795	1255
000	19	$\frac{8}{64}$	$\frac{1}{64}$	.850	1435
0000	19	$\frac{8}{64}$	$\frac{1}{64}$	.900	1611
250000	19	$\frac{8}{64}$	$\frac{1}{64}$	1.015	2119
300000	37	$\frac{8}{64}$	$\frac{5}{64}$	1.075	2374
400000	37	$\frac{8}{64}$	$\frac{5}{64}$	1.175	2849
500000	61	$\frac{8}{64}$	$\frac{5}{64}$	1.260	3266
600000	61	$\frac{10}{64}$	$\frac{5}{64}$	1.420	4182
700000	61	$\frac{10}{64}$	$\frac{5}{64}$	1.485	4574
800000	91	$\frac{10}{64}$	$\frac{5}{64}$	1.550	4981
900000	91	$\frac{10}{64}$	$\frac{5}{64}$	1.625	5489
1000000	91	$\frac{10}{64}$	$\frac{5}{64}$	1.660	5728
1500000	127	$\frac{10}{64}$	$\frac{7}{64}$	1.950	8125
2000000	127	$\frac{10}{64}$	$\frac{7}{64}$	2.205	10419

Okonite Varnished Cambric Insulated Cable**Extra Flexible Conductors—Double and Triple Braid****600 Volts**

Double Braid									
Approx. Size A.W.G. or C.M.	Num- ber	STRANDS Size Each A.W.G.	Actual Circular Mils	Diam. Over Copper In.	Wall of V.C. In.	Diam. In.	Wt. Lbs. per 1000 Ft.		
12	61	30	6130	.0903	$\frac{3}{64}$	.275	46		
10	61	28	9747	.1138	$\frac{3}{64}$	.310	64		
8	61	26	15500	.1435	$\frac{3}{64}$	.370	87		
7	61	25	19540	.1611	$\frac{3}{64}$	.420	113		
6	91	26	23120	.1753	$\frac{3}{64}$	.450	125		
5	91	25	29160	.1969	$\frac{3}{64}$	.475	149		
4	127	25	40690	.2327	$\frac{3}{64}$	.510	190		
3	133	24	53730	.3015	$\frac{3}{64}$	.580	247		
2	259	26	65800	.3347	$\frac{3}{64}$	.610	291		
1	259	25	82980	.3759	$\frac{3}{64}$	.705	387		
0	259	24	104600	.4221	$\frac{3}{64}$	.755	467		
00	427	25	136800	.4833	$\frac{3}{64}$	.835	581		
000	427	24	172500	.5427	$\frac{3}{64}$	.895	709		
0000	637	25	204100	.5907	$\frac{3}{64}$	.940	819		
250000	637	24	257300	.6633	$\frac{3}{64}$	1.045	1029		
300000	889	25	284800	.6981	$\frac{3}{64}$	1.080	1124		
350000	889	24	359200	.7839	$\frac{3}{64}$	1.165	1381		
450000	1159	24	468200	.9045	$\frac{3}{64}$	1.345	1759		
550000	1729	25	554000	.9845	$\frac{3}{64}$	1.455	2079		
700000	1729	24	698400	1.1060	$\frac{3}{64}$	1.575	2570		
750000	2413	25	773100	1.1640	$\frac{3}{64}$	1.635	2817		
1000000	2413	24	974800	1.3070	$\frac{3}{64}$	1.780	3498		
1250000	2413	23	1229000	1.4670	$\frac{3}{64}$	1.970	4386		

Triple Braid

Approx. Size A.W.G. or C.M.	Num- ber	STRANDS Size Each A.W.G.	Actual Circular Mils	Diam. Over Copper In.	Wall of V.C. In.	Diam. In.	Wt. Lbs. per 1000 Ft.
12	61	30	6130	.0903	$\frac{3}{64}$	.315	56
10	61	28	9747	.1138	$\frac{3}{64}$	.355	75
8	61	26	15500	.1435	$\frac{3}{64}$	.430	101
7	61	25	19540	.1611	$\frac{3}{64}$	.480	129
6	91	26	23120	.1753	$\frac{3}{64}$	.520	143
5	91	25	29160	.1969	$\frac{3}{64}$	.545	168
4	127	25	40690	.2327	$\frac{3}{64}$	.580	210
3	133	24	53730	.3015	$\frac{3}{64}$	.650	271
2	259	26	65800	.3347	$\frac{3}{64}$	.680	317
1	259	25	82980	.3759	$\frac{3}{64}$	.785	424
0	259	24	104600	.4221	$\frac{3}{64}$	.835	506
00	427	25	136800	.4833	$\frac{3}{64}$	.925	624
000	427	24	172500	.5427	$\frac{3}{64}$	.985	755
0000	637	25	204100	.5907	$\frac{3}{64}$	1.030	868
250000	637	24	257300	.6633	$\frac{3}{64}$	1.135	1084
300000	889	25	284800	.6981	$\frac{3}{64}$	1.170	1180
350000	889	24	359200	.7839	$\frac{3}{64}$	1.255	1442
450000	1159	24	468200	.9045	$\frac{3}{64}$	1.465	1829
550000	1729	25	554000	.9845	$\frac{3}{64}$	1.575	2153
700000	1729	24	698400	1.1060	$\frac{3}{64}$	1.695	2649
750000	2413	25	773100	1.1640	$\frac{3}{64}$	1.755	2901
1000000	2413	24	974800	1.3070	$\frac{3}{64}$	1.900	3589
1250000	2413	23	1229000	1.4670	$\frac{3}{64}$	2.090	4486

The above stranding is intended for use where extreme flexibility is desired such as generator and transformer leads, etc. Although the data given above is for single conductor with 600 volt insulation, these flexible conductors can be insulated for any commercial voltage, either single or multiple conductor, and with the following finishes:

Cotton, linen or hose yarn braids.

Okoloom.

DO YOU REALIZE that there are many Okonite installations that have been in service over twenty-five years and are still giving perfect satisfaction.



Okonite Varnished Cambric Insulated Cable

Single Conductor—Lead Covered

2500 Volts

Size A.W.G. or C. M.	Number of Strands	Varnished Cambric Wall, In.	Lead Wall In.	Diam. In.	Wt., Lbs. per 1000 Ft.
6	1	$\frac{9}{64}$	$\frac{1}{64}$	.570	658
	7	$\frac{9}{64}$	$\frac{1}{64}$	.600	704
4	1	$\frac{9}{64}$	$\frac{1}{64}$	.615	760
	7	$\frac{9}{64}$	$\frac{1}{64}$	.650	816
3	1	$\frac{9}{64}$	$\frac{1}{64}$	.635	819
	7	$\frac{9}{64}$	$\frac{1}{64}$	.680	890
2	1	$\frac{9}{64}$	$\frac{1}{64}$	.665	898
	19	$\frac{9}{64}$	$\frac{1}{64}$	.710	960
1	1	$\frac{10}{64}$	$\frac{1}{64}$	.730	1037
	19	$\frac{10}{64}$	$\frac{1}{64}$	.775	1100
0	1	$\frac{10}{64}$	$\frac{1}{64}$	.765	1131
	19	$\frac{10}{64}$	$\frac{1}{64}$	.815	1216
00	19	$\frac{10}{64}$	$\frac{1}{64}$	.860	1355
000	19	$\frac{10}{64}$	$\frac{5}{64}$	.950	1797
0000	19	$\frac{10}{64}$	$\frac{5}{64}$	1.000	1990
250000	19	$\frac{10}{64}$	$\frac{5}{64}$	1.045	2181
300000	37	$\frac{10}{64}$	$\frac{5}{64}$	1.110	2451
400000	37	$\frac{10}{64}$	$\frac{5}{64}$	1.210	2921
500000	61	$\frac{10}{64}$	$\frac{5}{64}$	1.290	3334
600000	61	$\frac{10}{64}$	$\frac{6}{64}$	1.420	4182
700000	61	$\frac{10}{64}$	$\frac{6}{64}$	1.485	4574
800000	91	$\frac{10}{64}$	$\frac{6}{64}$	1.550	4981
900000	91	$\frac{10}{64}$	$\frac{6}{64}$	1.625	5489
1800000	91	$\frac{10}{64}$	$\frac{6}{64}$	1.660	5728
1500000	127	$\frac{10}{64}$	$\frac{7}{64}$	1.950	8125
2000000	127	$\frac{10}{64}$	$\frac{7}{64}$	2.205	10419

3500 Volts

6	1	$\frac{10}{64}$	$\frac{1}{64}$	.600	699
	7	$\frac{10}{64}$	$\frac{1}{64}$	.630	746
4	1	$\frac{10}{64}$	$\frac{1}{64}$	.645	803
	7	$\frac{10}{64}$	$\frac{1}{64}$	.680	860
3	1	$\frac{10}{64}$	$\frac{1}{64}$	.670	868
	7	$\frac{10}{64}$	$\frac{1}{64}$	.710	934
2	1	$\frac{10}{64}$	$\frac{1}{64}$	.695	942
	19	$\frac{10}{64}$	$\frac{1}{64}$	.740	1005
1	1	$\frac{10}{64}$	$\frac{1}{64}$	.730	1037
	19	$\frac{10}{64}$	$\frac{1}{64}$	.775	1100
0	1	$\frac{10}{64}$	$\frac{1}{64}$	.765	1131
	19	$\frac{10}{64}$	$\frac{1}{64}$	.815	1216
00	19	$\frac{10}{64}$	$\frac{1}{64}$	.860	1355
000	19	$\frac{10}{64}$	$\frac{5}{64}$	.950	1797
0000	19	$\frac{10}{64}$	$\frac{5}{64}$	1.000	1990
250000	19	$\frac{11}{64}$	$\frac{5}{64}$	1.080	2249
300000	37	$\frac{11}{64}$	$\frac{5}{64}$	1.140	2515
400000	37	$\frac{11}{64}$	$\frac{5}{64}$	1.240	2988
500000	61	$\frac{11}{64}$	$\frac{5}{64}$	1.325	3415
600000	61	$\frac{12}{64}$	$\frac{6}{64}$	1.485	4343
700000	61	$\frac{12}{64}$	$\frac{6}{64}$	1.545	4730
800000	91	$\frac{12}{64}$	$\frac{6}{64}$	1.610	5140
900000	91	$\frac{12}{64}$	$\frac{6}{64}$	1.685	5653
1000000	91	$\frac{12}{64}$	$\frac{7}{64}$	1.750	6253
1500000	127	$\frac{12}{64}$	$\frac{7}{64}$	2.015	8325
2000000	127	$\frac{12}{64}$	$\frac{7}{64}$	2.295	11088

Okonite Varnished Cambric Insulated Cable

Single Conductor—Lead Covered

5000 Volts

Size A.W.G. or C. M.	Number of Strands	Varnished Cambric Wall, In.	Lead Wall In.	Diam. In.	Wt., Lbs. per 1000 Ft.
6	1	$\frac{12}{64}$	$\frac{1}{64}$	.665	790
	7	$\frac{12}{64}$	$\frac{1}{64}$	.695	838
4	1	$\frac{12}{64}$	$\frac{1}{64}$	.705	891
	7	$\frac{12}{64}$	$\frac{1}{64}$	.745	954
3	1	$\frac{12}{64}$	$\frac{1}{64}$	.730	956
	7	$\frac{12}{64}$	$\frac{1}{64}$	.775	1032
2	1	$\frac{12}{64}$	$\frac{1}{64}$	.760	1037
	19	$\frac{12}{64}$	$\frac{1}{64}$	.800	1097
1	1	$\frac{12}{64}$	$\frac{1}{64}$	.790	1128
	19	$\frac{12}{64}$	$\frac{1}{64}$	.835	1194
0	1	$\frac{12}{64}$	$\frac{1}{64}$	.825	1240
	19	$\frac{12}{64}$	$\frac{1}{64}$	.875	1312
00	19	$\frac{12}{64}$	$\frac{5}{64}$	.955	1714
000	19	$\frac{12}{64}$	$\frac{5}{64}$	1.010	1916
0000	19	$\frac{12}{64}$	$\frac{5}{64}$	1.060	2111
250000	19	$\frac{12}{64}$	$\frac{5}{64}$	1.110	2310
300000	37	$\frac{12}{64}$	$\frac{5}{64}$	1.170	2579
400000	37	$\frac{12}{64}$	$\frac{5}{64}$	1.270	3054
500000	61	$\frac{12}{64}$	$\frac{6}{64}$	1.385	3763
600000	61	$\frac{12}{64}$	$\frac{6}{64}$	1.485	4343
700000	61	$\frac{12}{64}$	$\frac{6}{64}$	1.545	4730
800000	91	$\frac{12}{64}$	$\frac{6}{64}$	1.610	5140
900000	91	$\frac{12}{64}$	$\frac{6}{64}$	1.685	5653
1000000	91	$\frac{12}{64}$	$\frac{7}{64}$	1.750	6253
1500000	127	$\frac{14}{64}$	$\frac{7}{64}$	2.075	9519
2000000	127	$\frac{14}{64}$	$\frac{8}{64}$	2.360	11316

7000 Volts

6	1	$\frac{16}{64}$	$\frac{1}{64}$	.790	976
	7	$\frac{16}{64}$	$\frac{1}{64}$	.820	1026
4	1	$\frac{16}{64}$	$\frac{1}{64}$	.830	1080
	7	$\frac{16}{64}$	$\frac{1}{64}$	.870	1149
3	1	$\frac{16}{64}$	$\frac{1}{64}$	.855	1149
	7	$\frac{16}{64}$	$\frac{1}{64}$	.935	1482
2	1	$\frac{16}{64}$	$\frac{5}{64}$	.920	1482
	19	$\frac{16}{64}$	$\frac{5}{64}$	.960	1558
1	1	$\frac{16}{64}$	$\frac{5}{64}$	.950	1586
	19	$\frac{16}{64}$	$\frac{5}{64}$	.995	1670
0	1	$\frac{16}{64}$	$\frac{5}{64}$	.985	1712
	19	$\frac{16}{64}$	$\frac{5}{64}$	1.035	1803
00	19	$\frac{16}{64}$	$\frac{5}{64}$	1.080	1962
000	19	$\frac{16}{64}$	$\frac{5}{64}$	1.135	2171
0000	19	$\frac{16}{64}$	$\frac{5}{64}$	1.185	2372
250000	19	$\frac{16}{64}$	$\frac{5}{64}$	1.235	2575
300000	37	$\frac{16}{64}$	$\frac{6}{64}$	1.325	3123
400000	37	$\frac{16}{64}$	$\frac{6}{64}$	1.425	3628
500000	61	$\frac{16}{64}$	$\frac{6}{64}$	1.510	4076
600000	61	$\frac{16}{64}$	$\frac{6}{64}$	1.610	4666
700000	61	$\frac{16}{64}$	$\frac{6}{64}$	1.670	5059
800000	91	$\frac{16}{64}$	$\frac{7}{64}$	1.765	5840
900000	91	$\frac{16}{64}$	$\frac{7}{64}$	1.840	6373
1000000	91	$\frac{16}{64}$	$\frac{7}{64}$	1.875	6620
1500000	127	$\frac{18}{64}$	$\frac{7}{64}$	2.200	8922
2000000	127	$\frac{18}{64}$	$\frac{8}{64}$	2.485	11770



Okonite Wire and Cable

Insulation Resistance of Okonite
Megohm Miles After One Minute Electrification
at 60° F. (15.6° C.)
Stranded

Size C.M. or A.W.G.	THICKNESSES OF INSULATION, INCHES				
	3/64	7/32	5/64	1/32	7/64
2000000
1000000	650
900000	675
800000	700
700000	750
600000	800
500000	750	850
400000	850	950
300000	950	1100
250000	1000	1150
0000	1000	1200	1300
000	1050	1300	1450
00	1200	1450	1600
0	1300	1550	1750

Size C.M. or A.W.G.	THICKNESS OF INSULATION, INCHES				
	1/32	5/32	3/16	1/8	5/16
2000000	500	625	725	825	1000
1000000	725	900	1025	1150	1350
900000	750	925	1100	1250	1400
800000	800	950	1150	1300	1450
700000	850	1000	1200	1400	1550
600000	900	1100	1300	1450	1650
500000	950	1150	1400	1550	1700
400000	1100	1300	1500	1700	1850
300000	1200	1400	1700	1900	2150
250000	1300	1550	1800	2050	2250
0000	1450	1750	2000	2250	2600
000	1600	1850	2250	2500	2800
00	1750	2100	2350	2700	3050
0	1950	2250	2600	2950	3250

Solid

Size A.W.G.	THICKNESS OF INSULATION, INCHES				
	3/64	7/32	5/64	1/32	7/64
1	.....	.....	1600	1850	2100
2	.....	1500	1750	2000	2300
3	.....	1600	1850	2250	2500
4	.....	1750	2100	2500	2750
5	.....	1950	2300	2700	3000
6	.....	2100	2500	2850	3250
8	1800	2500	3000	3350	3750
9	2000	2750	3250	3600	4050
10	2400	3000	3500	3900	4350
12	2700	3500	4000	4500	4950
14	3000	4050	4600	5100	5600

Size A.W.G.	THICKNESS OF INSULATION, INCHES				
	1/32	5/32	3/16	1/8	5/16
1	2350	2750	3100	3500	3825
2	2550	3000	3350	3750	4150
3	2750	3250	3700	4050	4500
4	3000	3500	3950	4300	4700
5	3250	3750	4250	4600	5050
6	3500	4050	4500	4950	5400
8	4100	4700	5200	5600	5950
9	4350	5000	5500	6000	6400
10	4700	5300	5850	6300	6800
12	5300	6000	6550	7000	7550
14	6000	6750	7300	7800	8300

Temperature Coefficients for Okonite Insulation Resistance

t°F.	Coef.	t°F.	Coef.	t°F.	Coef.	t°F.	Coef.	t°F.	Coef.
75	.6804	69	.7937	63	.9259	57	1.080	51	1.260
74	.6981	68	.8143	62	.9499	56	1.108	50	1.293
73	.7162	67	.8355	61	.9746	55	1.137	49	1.326
72	.7348	66	.8572	60	1.0000	54	1.166	48	1.362
71	.7540	65	.8795	59	1.0260	53	1.197	47	1.396
70	.7736	64	.9024	58	1.0530	52	1.228	46	1.433

The insulation resistance at 60°F. is equal to that at t°F. divided by the coefficient for t°F.

DO YOU REALIZE that the metal mould not only insures perfect centering of the conductor, but also produces a more dense product than can be obtained by any other method.

Okonite Ignition Wire



Plain Insulation



Double Braided

In gas engines the extreme temperature changes, constant vibration, gas fumes and oils all lend their aid toward the rapid deterioration of ignition wires. These obstacles to efficient electrical service are fixed, must be recognized and overcome. The physical properties of Okonite are peculiarly suited to accomplish this end; which, supported by scientific construction and testings by the most modern and approved methods, assures a service performance of the highest character.

Okonite ignition wires have a conductor consisting of thirty-seven No. 29 A. W. G. heavily tinned copper wires, concentrically stranded (not bunched). This construction gives the maximum of strength and flexibility and the full conductivity of a No. 14 A. W. G. wire. The Okonite insulation by adhering firmly to the conductor lends additional support.

With electrical properties of the highest order, Okonite withstands successfully greater abuse, more kinking and twisting than any insulation on the market. It is not affected by extreme temperature changes, commercial acids or alkalies. Gasoline, however, is a severe, and lubricating oil a mild solvent of rubber. To guard against these destructive agencies we apply two specially treated gas and oil-proof braids

Orders should specify whether plain insulation or double braided is desired.

Style No.	Plain Insulation		Double Braided	
	Diameter Over Okonite Inches	Approximate Weight Pounds per 1000 Ft.	Diameter Over Braids Inches	Approximate Weight Pounds per 1000 Ft.
1	.150	25	.220	31
2	.200	37	.270	45
3	.270	59	.340	70
4	.320	78	.390	91
5	.420	128	.495	143

Okonite Automobile Starter Cable

The toughness and lasting qualities of Okonite insulations make it especially desirable for this service.

We list on this page the sizes generally used. You will find other sizes and strandings listed elsewhere in this catalogue.

Size A.W.G.	Number of Strands	Okonite Wall Inches	Braids	Approx. Diam. Inches	Approx. Wt. Lbs. per 1000 Ft.
6	61	3/64	2	.460	161
4	61	3/64	2	.510	228
2	133	3/64	2	.620	328

DO YOU REALIZE that The Okonite Company is the only company in the United States that manufactures high grade 30 per cent rubber covered wire exclusively—and has never made a lower grade.

DO YOU REALIZE that The Okonite Company has specialized in this product for forty-five years.

We are New England Distributors for
UNION METAL STANDARDS
and
G-E NOVALUX UNITS
and Street Lighting Equipment



We are able to supply lighting systems scientifically designed to meet any lighting condition. Realizing the importance of and the demand for ornamental street lighting, we have exerted special efforts to provide a complete, dependable line of materials necessary for a proper installation.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Union Metal Lamp Standards

Dark Streets are Dangerous Streets

Before the days of systematic street lighting only those ventured out at night who had urgent business or an ample body-guard. Our streets have become safe just to the extent that they have been well lighted. It is true that light alone would be insufficient protection, but it is equally true that police alone, in any reasonable numbers, cannot afford complete protection.

Municipal budgets during the past fifteen years, have not permitted the large additions to police forces demanded by the rapid growth of our cities and constantly increasing motor traffic.

This deficiency in public safety has had to be supplied by better street lighting in which every standard has become a silent sentinel to guard pedestrians against thugs and highwaymen, and motorists against dangerous traffic accidents. —Indeed the safety of yourself and your family this very night is due more to street lighting than to the protection of your city's police force.

Making the World's Streets Brighter, Safer, More Beautiful

As you look down the well lighted streets of America's progressive cities and towns, chances are you will see an installation of Union Metal Lamp Standards.

As pioneers in the ornamental lighting field, The Union Metal Manufacturing Company supplied standards for the first installations sixteen years ago. They have specialized in better outdoor lighting ever since and have furnished equipment for many of the largest and best lighting systems installed during this period.

Union Metal leadership in ornamental street lighting is not an advertising claim, but an engineering fact. It is based on the designing work with the country's leading engineers and architects; on installations in more than a thousand principal cities and towns; upon the exclusive Union Metal idea of a pressed steel standard which is lighter in weight, stronger, safer, less expensive to install and maintain and far more beautiful than cast or molded standards.

Points of Superiority in Union Metal Lamp Standards

The officials of a large city recently sent the following unique specification, covering their lighting standard requirements:

1. Handsome standards with sharp lines and fine clear cut designs.
2. Reasonable price.
3. Safety against deaths and accidents due to falling of standards in traffic collisions.
4. The most economical standards to install and maintain.

Exhaustive study and tests of all products submitted led to the selection of Union Metal Lamp Standards and General Electric Novalux Units as the system that best met these requirements.

This is a typical example of the present state of mind of engineers, lighting companies and city officials, in connection with their plans for ornamental lighting. Today, they are more interested in features of beauty, safety and economy than they are in specifying that the standards shall weigh not less than 800 to 1000 pounds, so commonly found in the specifications prior to a few years ago.

Beauty

The principle of pressed steel construction developed and used exclusively by the Union Metal Manufacturing Company gives to Union Metal Lamp Standards a classical distinction and artistic beauty not possible in any other form of lighting standard construction.

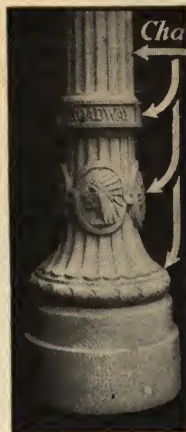
Shafts for Union Metal Lamp Standards are die made on the same machines that turn out thousands of the Union Metal Columns used by leading architects for porches and entrances to the finest homes and public buildings.

For sixteen years the Union Metal Manufacturing Company has been furnishing not only supports for lamps and globes but rather artistic lighting standard designs with the same sharp clear cut detail that characterized the architectural columns of ancient Greece and Rome.

A few of these popular designs are listed on these pages.

A catalogue showing the complete line will be sent upon request.

Union Metal Lamp Standards



Character in Every Line

Actual Photograph
(not Retouched) of
Base and Lower End of
Pressed Steel Shaft.
These Standards Re-
cently Installed on
State Street, and
Broadway, Salt Lake
City, are not only large,
but have Sharp, Clean
Cut Lines and Fine
Architectural Detail

This close-up view reveals the clean cut lines and fine architectural detail for which Union Metal Lamp Standards have always been noted. It is an actual photograph, not retouched, of the base and lower end of a pressed steel shaft of one of the large standards installed on State and Broadway, Salt Lake City.

Union Metal Lamp Standards are not made and sold as so many pounds or tons of metal, but are produced with special dies and machinery that make it possible to turn out clean-cut architectural base castings and sharp deep flutings in the pressed steel shafts.

Safety

Good lighting and safety go hand in hand. Heavy increase in motor traffic during recent years has emphasized the demand for safe and dependable lamp standards that take the punishment and absorb shocks thrust upon them by curb collisions.

Union Metal Pressed Steel Standards fully meet this responsibility and insure against deaths, accidents and damage

suits due to falling lamp posts.

Pressed metal shaft is reinforced with steel anchor and tie rods, extending from concrete sub-base to topmost part of the standard. In case of collision, Union Metal Standards will bend, but will not break and fall heavily.

The construction allows the manufacture of massive, highly ornamental and properly proportioned standards without any appreciable increase in weight. The fact that ornamental standards are installed on the finest streets of a city often necessitates their being massive and architecturally correct to harmonize with fine homes, large buildings and public structures with which they are associated. To meet this condition with cast or molded standards means the selection of units so heavy that their erection becomes a public menace.

Standards of lower quality jeopardize life, property, glassware, lamps and cable connections and finally emphasize the desirability of installing Union Metal Standards where standards must withstand sudden impacts, where it is desired to eliminate breakage, and where safety is essential.

Economy

True economy is measured not only in reasonable cost of standards, but in economical installation and low maintenance over a period of years.

Pressed metal construction reduces the weight of Union Metal Lamp Standards to about half that of cast iron or concrete of equal size or dimensions. This means that:

Union Metal Lamp Standards are economically transported and handled, reducing shipping costs in the United States, Canada and foreign countries approximately one-half.

Erection charges are practically cut in two. Sectional construction with base, shaft and lighting unit as separate parts, means that Union Metal bases can be set when the concrete sub-base is built. Besides saving a great deal of time, the base serves as a covering to the fresh concrete and protection to the exposed cables.

Two men can easily erect the pressed steel shaft, steel tie rods and lighting unit. Two willing workers with a step-ladder can erect, in one day, more Union Metal Lamp Standards than a gang of men with block and tackle, erecting platform or other devices, can do in equal time with heavier types of standards.

Lower Cost of Replacing Parts

In case of damage to Union Metal Standards it is necessary to replace only the one part that has been seriously damaged. Sometimes one of the base sections must be replaced, again a shaft to be straightened or re-rolled, but always only a small part of the cost of installing a complete new standard is involved. Space does not permit a detailed recital of the low maintenance experiences reported by many of the large users.



Union Metal Lamp Standards

Protection to Lamp and Glassware

Union Metal Lamp Standards combining pressed metal shafts, steel anchor and tie rods and lead gaskets serve as shock and vibration absorbers, to insure safety and long life to lamps and glassware.



Safety Combined with Low Breakage and Replacement Costs

standard construction as in the design of bridges, freight and passenger cars, automobile frames, structural steel work and other important products that are subjected to stress or strain.

Three sturdy anchor rods extend from the top of the ornamental base into the concrete sub-base, and securely anchor the lower section of the standard to the ground.

Every standard is provided with three steel tie rods passing from the base through the shaft and into the topmost part of the capital or head.

This scientific tripod of steel truss construction, coupled with the pressed metal shaft, provides the important engineering requirements of great strength, light weight, and low center of gravity. In case of severe impact, these standards will bend, but will not break and fall heavily to the ground.

Construction Details of Union Metal Lamp Standards

CAST BASES.—Union Metal Lamp Standards are always made with base, shaft and lighting units as separate parts. The ornamental bases, arms, brackets and miscellaneous cast parts are made of the best grade of tough grey foundry pig iron, all produced in the manufacturer's own foundry which is one of the most modern and best equipped plants in the country for the production of fine architectural castings.

Sectional construction permits all base castings to be made vertically or in upright position, thereby eliminating all rough, unsightly vertical seams. The Union Metal principle insures finer, cleaner cut lines in all castings, uniform thickness of metal throughout, and wholly eliminates such defects as sand or blow holes, scales, lumps, blisters and flaws.

All master wood patterns are made by expert pattern makers, trained by years of experience to produce relief work and sharp ornamental detail so that the final product might qualify as architectural castings. Hand chased and perfectly finished metal patterns are then made from the master wood patterns so that all work going to the trade is made from the metal patterns.

Even a more important economy is the protection against breakage in cases of severe traffic accidents. Union Metal Standards will bend and remain standing at extreme angles with globes and lamps unbroken and cable connections intact, while other types break under the impact and with their glassware fall violently to the ground.

Scientific Construction

In the development and design of Union Metal Lamp Standards the well recognized principle in engineering that, "the construction that provides the greatest strength with the least weight is the logical one to use" was constantly in mind, as being as vital in lighting

Union Metal Lamp Standards

Construction Details—Continued

PRESSED METAL SHAFTS.—Shafts are built up of 2-ply or thicknesses of No. 22 U. S. gauge copper bearing steel. They are lock seamed, die fluted and pressed firmly together; no solder nor rivets are used in the construction. Vertical joints of all shafts are double lock seamed, with seam rolled on inside so that all outside surfaces are smooth and clean. This laminated construction provides great strength, light weight and will successfully resist all blows that would shatter or break other types of standards.

COPPER JACKETED SHAFTS.—Where unusually rich or elegant effects are desired, the pressed steel shaft is covered at a nominal extra cost with 16-oz. cold rolled sheet copper which is neatly lock seamed, fluted and tightly pressed into place. This reinforced copper shaft can be finished in natural copper, verde antique, oxidized copper or statuary bronze. The base and top portions of the standard are paint finished to match so that at a nominal cost an effect almost equal to cast bronze is obtained. In other cases, we are called upon to furnish base and top portions of the standard in cast bronze with copper shafts as described. Prices on any of these special finishes and materials will be furnished upon application.

SURFACE FINISH.—A point of particular interest in connection with these lighting standards is that all interior surfaces are as smooth and clean as the outside surfaces. This condition coupled with the interior painting insures against the falling of scale, rust and moulding sand that sometimes causes short circuits and grounds at any point from the base to top of standard.

GALVANIZED AND PAINTED INSIDE AND OUTSIDE.—Interior and exterior surfaces of all metal shafts are protected against weather conditions, being galvanized with lead and zinc spelter.

Inside and outside are provided with priming coat of best grade metallastic paint before leaving the plant. Finishing coats may be applied after erection, or the following special finishes can be furnished at an extra charge: Natural copper, verde antique, oxidized copper, or statuary bronze. Cast iron parts are also painted both inside and outside with metallastic paint.

No other make of lighting standards on the American market is cleaned and finished on both surfaces, as is done with the Union Metal line.

Designs to Meet Every Lighting Condition

The scientific sectional construction already referred to, permits great flexibility in designs and sizes of Union Metal Lamp Standards. This ability to interchange bases, shafts and lighting units, together with the varying lengths of shafts, has been an important factor in the manufacturer's rise in leadership in the lighting standard and building column business.

We are never limited by patterns to an extent that we must sell a customer standards not adapted in design or height to his service. Pressed steel shafts permit us to furnish standards any height in fractional parts of an inch from 5 feet to 25 feet, without materially affecting cost of a design. This is of importance because varying heights in the same standard are required for different conditions such as heights and styles of buildings; varying widths of streets, lamps of high candle power in one city and low in another, taller standards in the business district, and lower ones on residential streets, and many other unusual conditions that call for modified and special designs.

Interchangeable parts make it possible for Union Metal to give a choice of designs in excess of two thousand. Such a wide range of service makes a strong appeal to users.

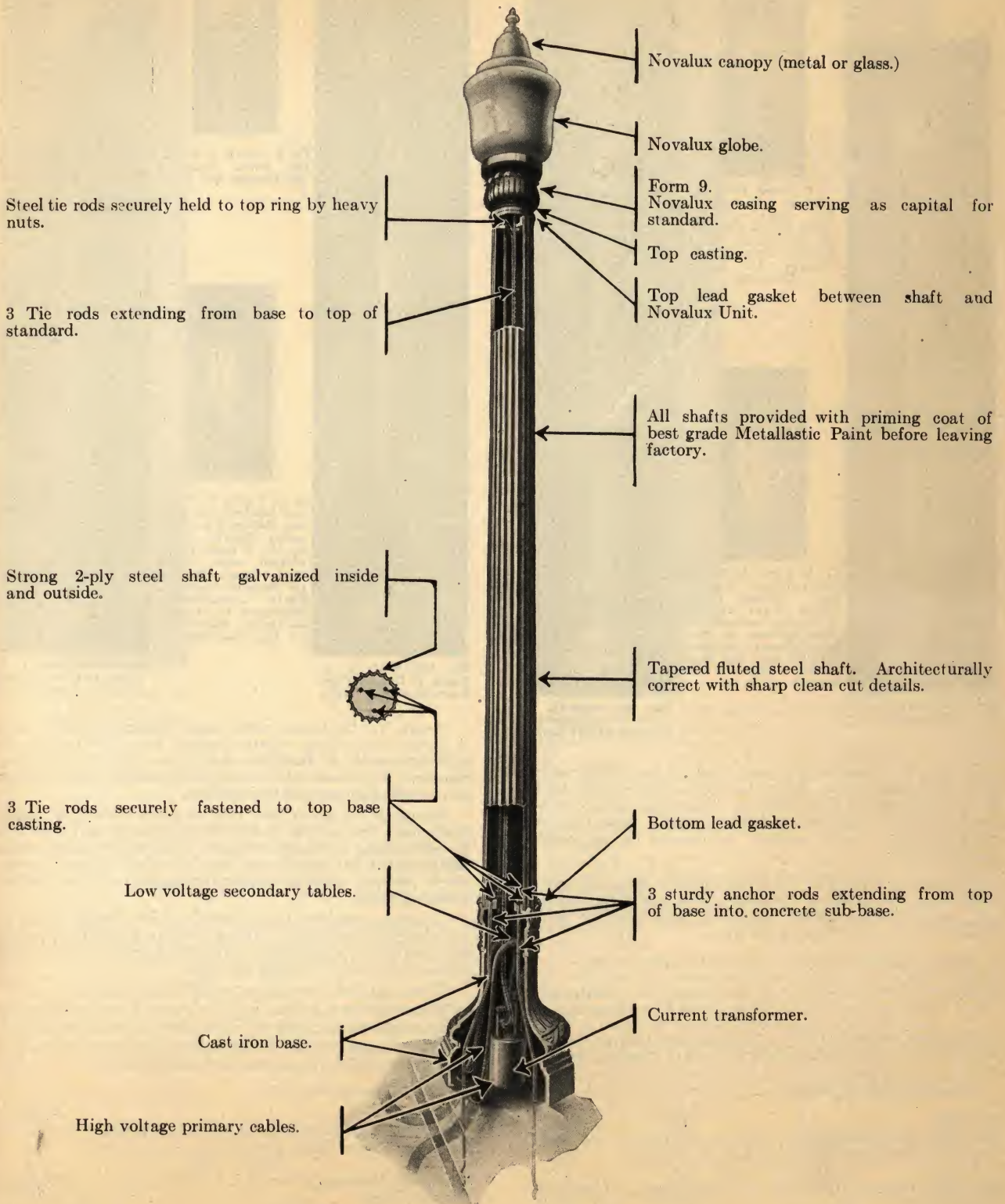
Meeting the Demand for Taller Single Light Standards

The increasing use of higher candle power lamps has created a demand for taller single light standards on certain jobs. Important changes in plant equipment permit the making of longer fluted Union Metal shafts, and provide single light standards in which the light sources may be anywhere from 15 to 18 feet above the ground.

The creation of these tall single light standards represents one of the most important developments in white way lighting during the past fifteen years. The same safety features that characterize Union Metal Lamp Standards of lower mounting heights are present in these taller units, whereas, all competitive standards have a greatly increased danger hazard as their height increases.



Union Metal Lamp Standards Construction Details



A Typical Single Light Union Metal Lamp Standard
Fitted with General Electric Novalux Lighting Unit



Union Metal Lamp Standards

For Business District Lighting



No. 649 with G. E. Form 9 Novalux Unit



G. E. Form 18 Ornamental Luminous Arc Lamp with 8 Panel Globe Adapted to Either of These Designs without Any Change in Shaft Diameter



G. E. Form 18 Novalux Lantern, R Casing. Shafts Must Taper from 9½ to 5 Inches with Top Ring Drilled to Receive Lantern. Retain Design Nos. 647 and 649



No. 647 with G. E. Form 10 Ornamental Luminous Arc Lamp

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

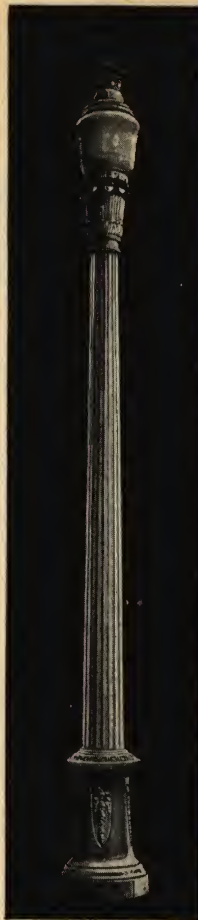
Always specify exact form of lighting unit that will be used on top of standard, and height and finish of standard desired.

Prices upon application.

Cat. No.	647	649
Size Base at Ground Line.....in.	21 Oct.	22 Dia.
Diam. Fluted Shaft, Bottom....."	9½	9½
" " " Top....."	6	6
Size Door Opening, Over All....."	4¾x8x9	4¾x9¼x6
Height Base....."	34½	18
" to Source of Light....."	14 Ft. 7 In.	12 Ft. 10 In.
Length of Shaft.....in.	112½	119
Approx. Ship. Wt., Standard only.....lbs.	315	235

Union Metal Lamp Standards

For Business District Lighting



No. 1523 with G. E. Form 10 Ornamental Luminous Arc Lamp



G. E. Form 9 Novalux Unit, Adapted to Design No. 1523



G. E. Form 18 Novalux Lantern, R Casing. Adapted by Tapering Shafts from 9½ to 5 Inches and Fitted with Union Metal Capital Drilled to Receive Lantern. This Combination Standard is Known As Union Metal Design No. 1689



No. 1523 with G. E. Form 18 Ornamental Luminous Arc Lamp

Design No. 1523 has a rather large base and 9½-inch shaft. A particularly strong, sturdy standard which has been in use with different G. E. Luminous Arc Units in Buffalo, Winnipeg, Spokane, Akron and other cities for years with large additions to the installations from time to time.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

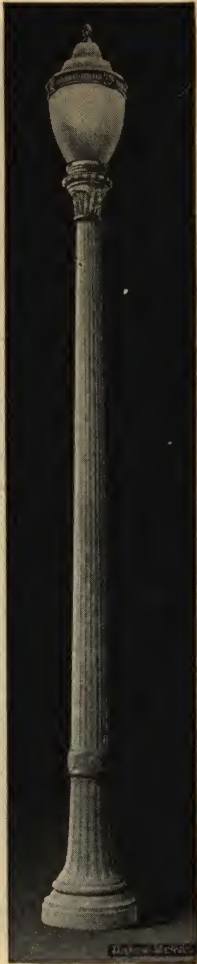
Always specify exact form of lighting unit that will be used on top of standard, and height and finish desired.

Prices upon application.

Cat. No.	1523
Diameter Base at Ground Line.....inches	20
" Fluted Shaft, Bottom....."	9½
" " " Top....."	6½
Size Door Opening, Over All....."	6x12½
Height, Base....."	32½
" to Source of Light....."	14 ft. 4 in.
Length of Shaft.....inches	112½
Approx. Shipping Wt., Standard Only.....pounds	320



Union Metal Lamp Standards For Business District Lighting



No. 807
With G. E. Form 12
Novalux Unit
M Casing No. 104,
16-inch Globe



G. E. Form 9 Novalux
Unit Adapted to De-
sign No. 807 by Taper-
ing Shaft from
7½ to 6 inches and
Retaining No. 807



G. E. Form 12 Nova-
lux Unit, N Casing
No. 97 17-Inch Globe
Adapted to Design
No. 807 without
Change in Shaft

A modification of design No. 842 which was designed by co-operation between the city of Cleveland Architects and Engineers, The General Electric Company and The Union Metal Mfg. Co.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

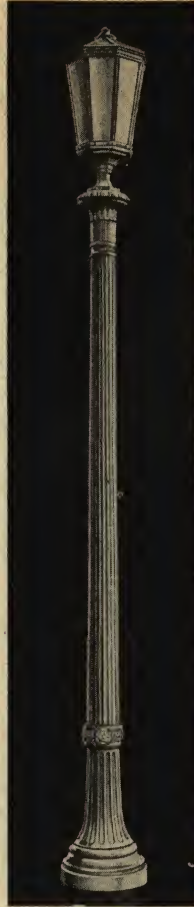
Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish of standard desired.

Prices upon application.

Cat No.	807
Diameter Base at Ground Line.....inches	20
" Fluted Shaft, Bottom....."	7½
" " Top....."	5
Size Door Opening, Over All....."	5½ and 10x12
Height Base....."	36
" of Shaft....."	112½
" to Source of Light....."	14 ft. 4 in.
Approx. Ship. Wt., Standard Only . pounds	265

Union Metal Lamp Standards For Business District Lighting



No. 842
With Union Metal
Capital and G. E.
Form 23 Novalux
Lantern



No. 1842
G. E. Form 18 Novalux
Lantern, R. Casing
to Standard Shown by Tapering
Shaft from 7½ to 5 inches



No. 1356
G. E. Form 18 Novalux
Lantern, R Casing
Adapted to Standard Shown
as No. 842 by Fitting Shaft
with Union Metal Capital
Drilled to Receive Lantern

Design No. 842 with the Euclid Lantern was designed by co-operation between the city of Cleveland Architects and Engineers, The General Electric Company and The Union Metal Mfg. Company. The original installation of 500 in Cleveland has grown to nearly 5000 during the past eight years. This design with its various modifications has grown to be the most popular standard of any unit developed by anyone since ornamental street lighting started sixteen years ago.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish desired.

Prices upon application.

Cat. No.	842
Diameter Base at Ground Line.....inches	20
" Fluted Shaft, Bottom....."	7½
" " Top....."	5½
Size Door Opening, Over All....."	5½ and 10x12
Height Base....."	36
" Shaft....."	107
" to Source of Light....."	14 ft. 11 in.
Approx. Ship. Wt., Standard Only . pounds	350



Union Metal Lamp Standards For Business District Lighting



No. 1537
With G. E. Form 12
Novalux Unit O Cas-
ing and No. 103 14-
Inch Globe



G. E. Form 16 Nova-
lux Unit Q Casing
and No. 97 17-inch
Globe Adapted to
and Remaining No.
1537 Design



G. E. Form 17 Nova-
lux Unit (Harp Type)
Adapted by Tapering
Shaft from 8 to 6
Inches and Remain-
ing Design No. 1537



No. 1610
With Union Metal
Capital Drilled to
Receive G. E. Form
18 Novalux Lantern

This is one of the eight inch diameter designs that may be variously tapered to accommodate the full range of G. E. Novalux and Lantern types of lighting units. Four of the combinations are shown on this page.

Design No. 1610 is furnished with Form 18 Novalux unit in the 18-inch or small size S casing or 21-inch large size R casing.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shaft.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

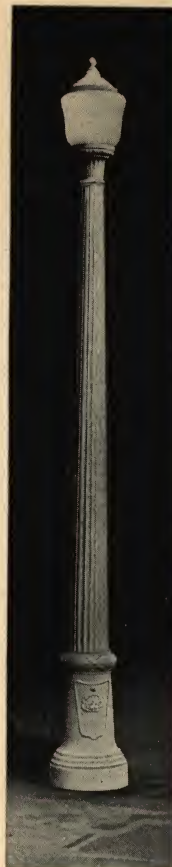
Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish desired.

Prices upon application.

Cat. No.	1537	1610
Diam. Base at Ground Line in.	16	16
" Fluted Shaft, Bottom .. "	8	8
" " " Top .. " "	5	5
Size Door Opening, Over All. "	4½ and 7x10½	4½ and 7x10½
Height Base .. " "	30½	30½
" Shaft .. " "	112½	107
" to Source of Light .. " "	13 Ft. 7½ In.	13 Ft. 9½ In.
Shipping Weight, Standard only .. lbs.	255	265

Union Metal Lamp Standards For Business District Lighting



No. 1538
With G. E. Form 8
Novalux Unit, 13-
inch Globe. Shaft
Tapers from 8 to 4
Inches



No. 1538
G. E. Form 9 Nova-
lux Unit, 16-inch
Globe, Shaft Tapers
from 8 to 6 Inches



No. 1357
G. E. Form 18 Nova-
lux Lantern, S or R
Casing, Shaft Tapers:
For S casing, 8 to 4
Inches, for R Casing,
8 to 5 Inches



No. 1538
With G. E. Form 12
Novalux Unit, O Cas-
ing and No. 103, 14-
inch Globe. Shaft
Tapers from 8 to 5
Inches

This is the largest selling 8-inch shaft design in the Union Metal line. It is pleasing in appearance, yet has always been sold at a price so reasonable that many buyers have been attracted to it. From the combination shown above it will be noted that this unit may be variously tapered to accommodate the full range of Novalux and Lanterns, requiring top shaft diameters of 6, 5 or 4 inches. Many thousands of this design are installed in hundreds of towns and cities where low first cost was considered essential.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze. Copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish desired.

Prices upon application.

Cat. No.	1538
Diameter Base .. in	15
" Fluted Shaft, Bottom .. " "	8
" " " Top .. " "	4
Size Door Opening, Over All .. " "	4 & 5½ x 9 ½
Height, Base .. " "	26
" Shaft .. " "	95
" to Source of Light .. " "	11 ft. 4 in.
Approx. Ship. Wt., Standard Only .. lbs.	205



Union Metal Lamp Standards For Business District Lighting



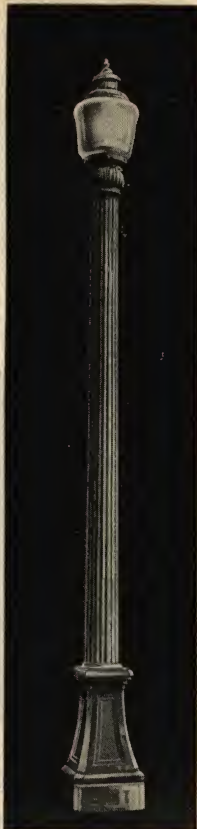
No. 877
With G. E. Form 12
Novalux Unit N Cas-
ing, No. 97 17-inch
Globe. Shaft Tapers
from 8 to 5 inches



**Form 16 G. E. Nova-
lux Unit Q Casing
and No. 97 17-inch
Globe. Shaft Tapers
from 8 to 5 inches**



**G. E. Form 12 Nova-
lux Unit O Casing
and No. 103 14-inch
Globe. Shaft Tapers
from 8 to 5 inches**



No. 877
With G. E. Form 9
Novalux Unit. Shaft
Tapers from 8 to 6
inches

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shaft.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish desired.

Prices upon application.

Cat. No.	877
Size Base	16 3/4 Sq. inches
Diameter, Fluted Shaft, Bottom	8
" " " Top	6
Size Door Opening, Over All	3 1/2 x 6 1/2 x 13
Height Base	32
" Shaft	107
" to Source of Light	13 ft.
Approx. Ship. Wt., Standard Only	255 pounds

Union Metal Lamp Standards Trolley Pole Casings



**No. 1642 Two Light Trolley
Pole Casing Type Standard
with G. E. Form 12 Novalux
Units, M Casing, No. 104
16-inch Globe**



**G. E. Form 18 Nova-
lux Lantern, R Casing**



**G. E. Form 10 Orna-
mental Luminous
Arc Lamp**



**G. E. Form 12 Nova-
lux Unit, N Casing
No. 97, 17-inch Globe**

Design No. 1641, not illustrated, is the same type casing exactly as No. 1642, but has only one lamp and bracket.

These designs were first made for Gloversville, N. Y. By combining the lighting standards and trolley poles the number of side walk obstructions are reduced and the trolley poles are covered ornamentally.

These standards are designed to encase a standard 7, 6, 5-inch tubular steel trolley pole. A standard 8, 7, 6-inch pole can be accommodated by increasing shaft 1 foot in length, making the light source 17 ft. 7 in. above the ground line.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, tubular trolley poles or any of the electrical equipment. Globes, sockets, ventilators, wiring, tubular trolley poles, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

Always specify the exact form of lighting unit to be used, the finish desired and dimensions of tubular steel trolley pole to be used with design ordered. Prices upon application.

Cat. No.	1641	1642
Size, Base	22 Oct.	22 Oct.
Diameter, Fluted Shaft, Bottom	11	11
Size Door Opening, Over All	5 1/4 and 9x10	5 1/4 and 9x10
" Hand Hole (2 in Base)	6x6	6x6
Height Ground Line to Source of Light	16 Ft. 7 In.	16 Ft. 7 In.
Center Standard " " " "	18	18
Height, Base and Shaft	176	176
Approx. Ship. Wt., Standard only	655 lbs.	745



Union Metal Lamp Standards Trolley Pole Casings

Union Metal Lamp Standards For Business District Lighting Trolley Pole Brackets



G. E. Form 12
Novalux Unit, M
Casing, No. 104
16-Inch Globe Adapt-
ed to Design No. 901



G. E. Form 18 Nova-
lux Lantern, 21-inch
Large Size R Casing
Adapted to Design
No. 901

No. 901 One Light Trolley Pole
Casing Type Standard with
G. E. Form 9 Novalux Unit

In many cases it is desirable to utilize existing trolley poles in installing a lighting system in order to reduce the number of obstructions on the street. With Union Metal Casing Standards the unsightly tubular steel trolley poles are entirely concealed by the ornamental standards. This practical treatment for combination trolley pole, lighting standard installations has been adopted by many cities.

This design with its modifications is made to encase standard 7, 6, 5-inch tubular steel trolley poles. The butt section cannot extend more than 12 ft 4 in. above ground. Unless otherwise specified the standard is furnished to accommodate a pole, butt section, 7 $\frac{5}{8}$ -inch, middle section, 6 $\frac{5}{8}$ -inch outside diameter.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, tubular trolley poles or any of the electrical equipment. Globes, sockets, ventilators, wiring, tubular trolley poles, etc., quoted on application.

Always specify the exact form of lighting unit to be used, finish desired and dimensions within given limits of pole.

Prices upon application.

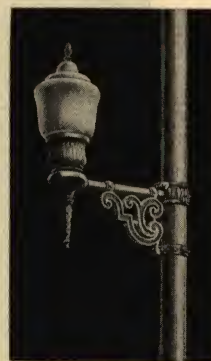
Cat. No.	901
Diameter Base	20 in.
" Fluted Shaft, Bottom	10 in.
" " " Top	8 $\frac{7}{8}$ in.
Size Door Opening, Over All	6x12 $\frac{1}{2}$ in.
Height Ground Line to Source of Light	15 Ft. 6 $\frac{1}{2}$ In.
Center Standard to Source of Light	29 in.
Height, Base and Shaft	151 $\frac{1}{2}$ in.
Approx. Ship. Wt., Standard Only	440 lbs.



No. 882
One Light Trolley Pole
Bracket with G. E. Form 9
Novalux Unit



No. 656
One Light Trolley Pole
Bracket with G. E. Form 10
Ornamental Luminous Arc
Lamp



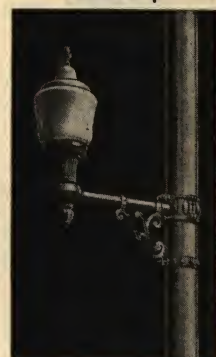
No. 1690
One Light Trolley Pole
Bracket with G. E. Form 9
Novalux Unit



No. 1691
One Light Trolley Pole
Bracket with G. E. Form 10
Ornamental Luminous
Arc Lamp



No. 1692
One Light Trolley Pole
Bracket with G. E. Form 18
Novalux Lantern 18-inch
Small Size, S. Casing



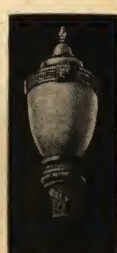
No. 898
One Light Trolley Pole
Bracket with G. E. Form 8
Novalux Unit



G. E. Form 23
Novalux Lantern
Adapted for
Bracket No. 882
Design 1967



G. E. Form 18
Novalux Lantern
21-inch Large Size
for Mounting on
Bracket No. 1690
Design 1717



G. E. Form 12
Novalux Unit
O Casing, No. 103,
14-inch Globe for
Bracket No. 1692
Design 1968



Union Metal Lamp Standards For Residential, Park and Boulevard Lighting



No. 874
With G. E. Form 8
Novalux Unit
Shaft Tapers from
6½ to 4 inches



G. E. Form 13 Nova-
lux Unit, J. Casing
No. 92, 14-inch Globe
Adapted by Tapering
Shaft from 6½ to 4
Inches



G. E. Form 12 Nova-
lux Unit, O Casing
No. 103, 14-inch Globe
Adapted by Tapering
Shaft from 6½ to 5
Inches



No. 874
With G. E. Form 8
Novalux Unit, No. 3
Casing and No. 103,
14-inch Globe

For ten years Design No. 874 has been one of the most popular standards for residential and park lighting with 6½-inch shaft tapering to 4 or 5 inches depending upon the form of Novalux Unit used. This design is fairly massive and not thin and spindling as are most designs which are offered in competition with it.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shaft.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish desired.

Prices upon application.

Cat. No.	874
Diameter Base.....in.	17
“ Fluted Shaft, Bottom.....“	6½
“ “ “ Top.....“	4
Size Door Opening, Over All.....“	5x9x6½
Height Base.....“	17
“ Shaft.....“	95
“ to Source of Light.....“	10 Ft. 6¾ In.
Approx. Ship. Wt., Standard only.....lbs.	160

Union Metal Lamp Standards For Residential, Park and Boulevard Lighting



No. 880
With Union Metal Capital
Form 23-A Novalux Lantern



No. 1572
With Union Metal Capital
Form 18 Novalux Lantern

Union Metal and General Electric Engineers have worked out these attractive combinations of standards and lanterns for residential and parkway service. In shape and design the lanterns are duplicates of Form 18 and Form 23 street lighting lanterns shown in other designs, but these units have 18-inch diameters instead of 21-inch in the larger lanterns. Lanterns in these designs are interchangeable, design Nos. of standards remaining the same.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit, that will be used on top of standard, height and finish of standard desired.

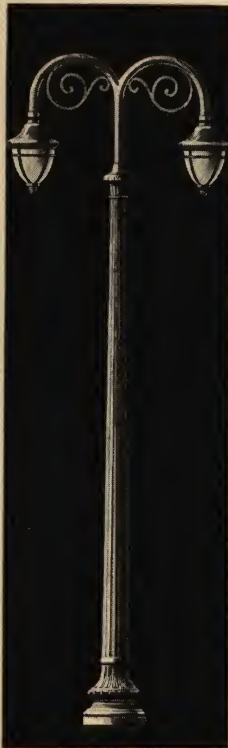
Prices upon application.

Cat. No.	880	1572
Diameter, Base.....in.	17	17½
“ Fluted Shaft, Bot- tom.....in.	6½	8
Diameter, Fluted Shaft, Top.....“	4	4
Size Door Opening, Over All.....“	5 and 9x6½	4½ and 6½x3
Height, Base.....“	17	14
“ Shaft.....“	95	103
“ to Source of Light.....“	11 Ft. ¾ In.	11 Ft. 8 In.
Approx. Ship. Wt., Std. only.....lbs.	175	155



Union Metal Lamp Standards

For Residential, Park and Boulevard Lighting



No. 1702
Two Light with G. E. Form 25-B
Novalux Unit, Suspended Type Lantern

Design No. 1701, not illustrated, is exactly the same design as No. 1702 with one light.

These standards were developed for installation around gasoline filling stations, but are filling a need for bridge lighting and for installation in private grounds and estates.

The lanterns were developed for residential lighting in East Cleveland and are fitted with prismatic refractors inside the globes for directing the light in useful directions.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application.

When required, bases are arranged for cut-outs, etc.

In ordering, specify finish and height of standard desired.

Prices upon application.

Cat. No.	1701	1702
Diam. Base.....in.	17	17
" Fluted Shaft, Bottom....."	6½	6½
" " " Top....."	4	4
Size Door Opening, Over All....."	5 and 9x6½	5 and 9x6½
Height Base....."	17	17
" Shaft....."	119	119
" to Source of Light...ft.	12	12
" Over All....."	14 Ft. 8 In.	14 Ft. 8 In.
Center Std. to Source of Light.....in.	22½	22½
Approx. Ship. Wt., Std. only.lbs	230	250

Union Metal Lamp Standards

For Residential, Park and Boulevard Lighting



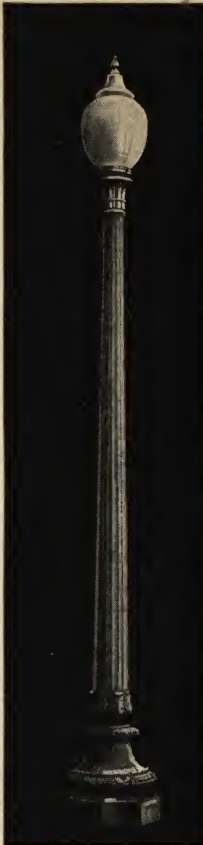
No. 1292
With G. E. Form 8
Novalux Unit, F
Casing, Rippled Glass



No. 1694
G. E. Form 18
Novalux Lantern,
18-inch Small
Size S Casing,
Adapted by Fur-
nishing Union
Metal Capital
Drilled to Re-
ceive Lantern



No. 1292
G. E. Form 12
Novalux Unit
with O Casing No.
103, 14-inch Globe
Shaft Tapers 7 to
5 Inches.



No. 1292
With G. E. Form 13
Novalux Unit, J Cas-
ing No. 92, 14-inch
Globe

This is a handsome residential or parkway design with slightly larger base than designs Nos. 874, 856, etc. Unlike the other residential designs it has an octagon base member 18 inches from face to face, with well proportioned base height of 24 inches. With ten foot steel shaft, the light source can be brought up to 13 ft. 8 in. which is somewhat higher than most residential standards reach.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish of standard desired.

Prices upon application.

Cat. No.	1292
Size Base.....in.	18 Oct.
Diameter Fluted Shaft, Bottom....."	7
" " " Top....."	4
Size Door Opening, Over All....."	4½ and 8½x5½
Height Base....."	24
" Shaft....."	95
" to Source of Light....."	11 Ft. 8 In.
Approx. Ship. Wt., Standard only.....lbs.	200



Union Metal Lamp Standards For Residential, Park and Boulevard Lighting



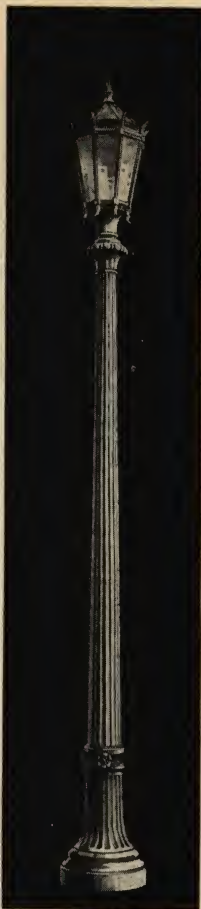
No. 1571
With G. E. Form 8
Novalux Unit



No. 1571
G. E. Form 12 Nova-
lux Unit, O Casing
No. 103, 14-Inch
Globe Adapted by
Tapering Shaft $6\frac{1}{2}$
to 5 Inches



No. 1571
G. E. Form 13 Nova-
lux Unit, J Casing
No. 92 Globe
Adapted by Tapering
Shaft $6\frac{1}{2}$ to 4 Inches



No. 1693
With Union Metal
Capital G. E. Form
18 Novalux Lantern
Small Size S Casing

These two designs correspond to the Nos. 807 and 842 developed for business district lighting. They meet the demand for a smaller size standard to extend into the residential districts of cities and towns from the point where the larger white way standards stop. Design No. 1571 was first developed for Bexley, Ohio, the high class residential section of Columbus, Ohio; the original installation consisting of over 400 standards.

Accommodate a large range of G. E. Novalux Units requiring top shaft diameters of 4 to 5 inches.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Specify the exact form of lighting unit that will be used on top of standard and height and finish of standard desired.

Prices upon application.

Cat. No.	1571	1693
Diam. Base.....in.	16 $\frac{1}{2}$	16 $\frac{1}{2}$
" Fluted Shaft, Bottom....."	6 $\frac{1}{2}$	6 $\frac{1}{2}$
" " " Top....."	4	4
Size Door Opening, Over All....."	4x6x8 $\frac{1}{2}$	4x6x8 $\frac{1}{2}$
Height Base....."	27	27
" Shaft....."	95	95
" to Source of Light....."	11 Ft. 6 In.	12 Ft. 1 In.
Approx. Ship. Wt., Standard, only..lbs.	180	210

Union Metal Lamp Standards For Residential, Park and Boulevard Lighting



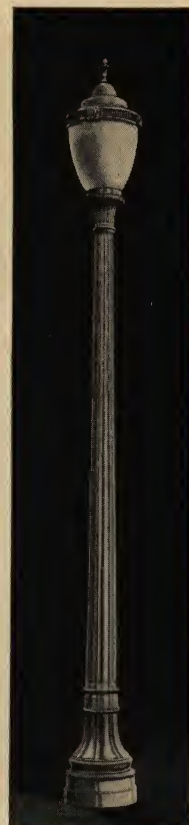
No. 1082
With G. E. Form 13
Novalux Unit, J Cas-
ing, No. 92, 14-inch
Globe



G. E. Form 8 Nova-
lux Unit, F Casing
No. 39, 13-Inch Globe
Shaft for Either No.
1082 or No. 1298
Modified and Ta-
pered as Indicated in
Description



G. E. Form 18 Nova-
lux Lantern, 18-Inch
Small Size, S Casing
Shaft Either No. 1082
or No. 1298 Modified
and Tapered as Indi-
cated in Description



No. 1298
With G. E. Form 8
Novalux Unit, No. 3
Casing, No. 103, 14-
inch Globe

Design No. 1082 known as the Octagonal Type Union Metal standard, has octagon shaped base blending into a 6-inch octagon shaped shaft which tapers to 4-inch top and accommodates an octagon shaped General Electric Novalux Casing.

Design No. 1298 is so modified that the shaft is fluted to harmonize with the base.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard and height and finish desired.

Prices upon application.

Cat. No.	1082	1298
Diam. Base.....in.	16	16
Size Shaft, Bottom....."	6 Oct.	6 $\frac{1}{2}$ Dia.
" " " Top....."	4	4
Size Door Opening, Over All....."	3 $\frac{1}{2}$ x6 $\frac{1}{4}$ x8	3 $\frac{1}{2}$ x6 $\frac{1}{4}$ x8
Height Base....."	25	25
" Shaft....."	95	95
" to Source of Light....."	11 Ft. 6 In.	11 Ft. 2 In.
Approx. Ship. Wt., Standard only..lbs.	195	195



Union Metal Lamp Standards

For Residential, Park and Boulevard Lighting



No. 717
With Union Metal Capital
and Ball Globe



No. 883
With Union Metal Capital
and Ball Globe

These are handsome designs developed with the cost of large installations in mind. The cost is so reasonable that the standards may be used in quantity for any lighting proposition.

Other shapes and sizes of globes may be used in place of the 16-inch ball globe shown in the illustrations.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Specify finish and height of standard desired, exact size of globe and bottom opening so that globe holder on the capital of standard may be furnished proper size.

Prices upon application.

Cat. No.	717	883
Size Square Base.....in.	16x16	.....
Diameter Base....."	17	.....
" Fluted Shaft, Bottom....."	8	6½
" " " Top....."	5	4
Size Door Opening, Over All....."	4½x6½x3	5x9x6½
Height Base....."	10½	17
" Shaft....."	95	95
" Over All....."	10 ft. 9 in.	11 ft. 4 in.
Approx. Ship. Wt., Standard Only.....lbs.	180	185

Union Metal Lamp Standards

For Residential, Park and Boulevard Lighting



No. 1260

One Light with G. E. Form 25-B Novalux Unit, Suspended Lantern



No. 1360

One Light with G. E. Form 25-B Novalux Unit, Suspended Lantern

These designs are the result of a plan made by the engineers of the National Lamp Works of General Electric Company to install a complete new system of electric street lighting for East Cleveland, a residential city with 40 miles of gas lighted streets. Demand for good illumination, economical installation and low maintenance combined in an ornamental design to harmonize with the city's natural beauty, resulted in the installation of 900 Union Metal Lamp Standards as shown on this page.

No. 1260, 20 feet to light source, was used on wide main thoroughfares where the light would not be seriously obstructed by trees. Lighting source is 6 feet out from center of the standard.

No. 1360, 16 feet to light source, was used on strictly residential streets where overhanging tree limbs might obstruct the light. Light source, 4½ feet from center of standard.

Tubular steel pole with 4-inch to 3-inch diameter sections. Base with door, separate from tubular steel pole, provides ornamentation.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: Natural copper, verde antique, oxidized copper, or statuary bronze.

Catalogue numbers do not include lamps, or any of the electrical equipment. Lanterns, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

Specify height, finish, and exact form of lighting unit that will be used with the standard.

Cat. No.	1260	1360
Diameter Base.....in.	17	17
Size Door Opening, Over All....."	5½x8½x10	5½x8½x10
Height Base....."	33	33
" Ground Line to Top of Pole.....ft.	23	19
Approx. Ship. Wt., without Lantern.....lbs.	475	425



Union Metal Lamp Standards For Residential, Park and Boulevard Lighting



No. 1348
G. E. Form 8 Nova-
lux Unit, F Casing
13-inch Globe



No. 1348
G. E. Form 18
Novalux Lantern,
18-inch S Casing.
Adapted by
Drilling Top Ring
of Standard to
Receive Lantern



No. 895
G. E. Form 24
Pendant Lan-
tern, 21-inch or
18-inch Sizes



No. 895
G. E. Form 6 Nova-
lux Unit
Shepherd's Crook Type

No. 1348 was developed for extensive use in lighting parks and park boulevards in Buffalo, and corresponds to No. 1523 which is used extensively in the business streets of Buffalo.

No. 895 was developed for Buffalo streets, neither strictly business nor residential, nor parkway, but where high mounting necessary for greater spacing distance was demanded. The lighting unit has refractor for properly distributing the light, yet the design is ornamental and in keeping with the rest of the Buffalo city lighting. Installations of these two designs in Buffalo alone run into the thousands.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Specify finish and height desired, and exact form of lighting unit that will be used with the standard.

Prices upon application.

Cat. No.	1348	895
Diameter, Base.....in.	15	20
" Fluted Shaft, Bottom...."	6½	7½
" Fluted Shaft, Top...."	4	4
Size Door Opening, Over All.."	4x3x10	5½ and 10x12
Height, Base....."	30	36
" Shaft....."	95	166
" to Source of Light.....	11 Ft. 8 In.	18 Ft. 0 In.
Approx. Ship. Wt., Standard only .pounds	195	400

Union Metal Lamp Standards For Bridge, Traffic and Special Lighting



No. 1633
Fire Alarm Standard with
G. E. Form 9 Novalux Unit



No. 1696
With Union Metal Brackets
G. E. Form 6 Novalux
Pendant Units

Design No. 1633 is a combination lighting and fire alarm standard, intended to reduce the number of street obstructions.

No. 1696 serves the dual purpose of support for trolley span wires and ornamental lighting standard. The base and shaft telescope over the tubular street trolley pole and beautify it up to the point usually in view of pedestrians. Middle section of trolley pole must not be more than 7½-inch, butt section, 8½-inch, outside diameters; nor extend more than 12 feet above ground line.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: Natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, trolley poles nor fire alarm box in No. 1633, or any of the electrical equipment. Globes, sockets, ventilators, wiring, tubular steel trolley poles, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify finish and height desired and exact form of lighting unit that will be used on top of standard; size of steel pole to be encased. Prices upon application.

Cat. No.	1633	1696
Size, Base.....in.	21 Oct.	20 Dia.
Diameter Fluted Shaft, Bottom...."	9½	10
" " " Top....."	6	9½
Size Door Opening, Over All....."	4¾ and 8x9	6x12½
Height, Base....."	29	32½
" Shaft....."	112½	112½
" to Source of Light....."	13 Ft. 2 In.	18 Ft. 6 In.
Approx. Ship. Wt., Standard only .lbs.	410	485



Union Metal Lamp Standards
For Bridge, Traffic and Special Lighting



No. 1706
With G. E. Form L-15
Flood Light Projector



No. 1684
With Two G.E. Form L-4
Flood Light Projectors

Special standards for mounting of flood light projectors are part of the Union Metal line. Almost every lighting condition calls for a different type of standard for mounting the projectors, therefore, it is impossible to give a complete list of standards available for this purpose.

Design No. 1706 was developed for places where an extremely tall standard was required. No. 1684 provides a normal mounting height above the curb line.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

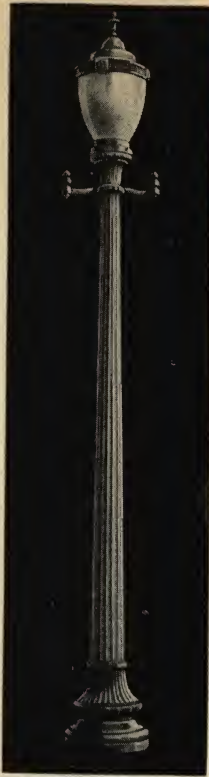
When required, bases are arranged for cut-outs, etc. Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Specify finish and height desired, and exact type of lighting unit that will be used on top of standard.

Prices upon application.

Cat. No.	1706	1684
Diameter Base.....in.	20	20
" Fluted Shaft, Bottom.....in.	7½	7½
Diameter Fluted Shaft, Top... " 4	5	
Size Door Opening, Over All... " 10 and 5½x12 10 and 5½x12	36	36
Height Base..... " 190	119	
" Shaft..... " 20 ft.	14 ft. 10 in.	
" to Bottom of Projector... " 20 ft.		
Approx. Ship. Wt., Standard only.....pounds	365	435

Union Metal Lamp Standards
For Bridge, Traffic and Special Lighting



No. 1184
G. E. Form 8 Novalux Unit
No. 3 Casing, No. 103, 14-
inch Globe, Fitted with Cross
Arm for Overhead Wiring



No. 1331
G.E. Form 8 Novalux Unit
F Casing, No. 39, 13-inch
Globe, Fitted with Union
Metal Street Sign Holder

Design No. 1184 is typical of quite a number of Union Metal Standards that can be arranged with cross arm for overhead wiring. It so happens in some towns that feed wires are carried overhead on tall wooden poles, and that it is quite inexpensive to tap them and run the lamp cables to the cross arm and insulators as shown on this design.

Special designs for this class of work will be submitted.

No. 1331 with Union Metal four sided street sign is a popular unit for street intersections in residential districts. The street sign is a four sided metal frame with 4 glass panels with proper street markings.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Specify finish, height and exact unit to be used on standard.

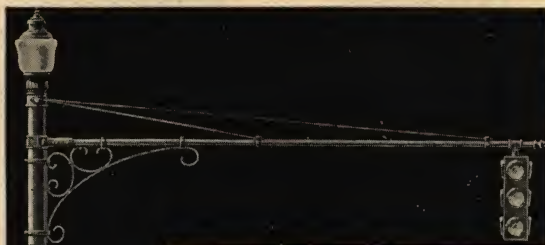
Prices include cross arm in design No. 1184, and four sided street sign with glass panels, in No. 1331. Painting of panels extra.

Prices upon application.

Cat. No.	1184	1331
Diameter Base.....	17	17
" Fluted Shaft, Bottom in.	6½	6½
" " Top... " 4	4	4
Size Door Opening, Over All... " 5 and 9x6½	5 and 9x6½	5 and 9x6½
Height, Base..... " 17	17	17
" Shaft..... " 95	95	95
" to Source of Light..... " 11 ft.	11 ft.	11 ft. 6¾ in.
Approx. Ship. Wt., Standard Com- plete.....pounds	180	180



Union Metal Lamp Standards For Bridge, Traffic and Special Lighting



No. 1628
With G. E. Form 9 Novalux Unit and
Crouse Hinds Traffic Signal

This special standard was first developed for Atlantic City to serve as a combination lighting unit and support for traffic signal. The standard is installed at street intersections and with a 15-foot arm, the traffic signal is thrown out to practically the center of the street.

The principal support of this standard is a standard 8-7-6-inch tubular steel trolley pole with ornamental base, casing and capital telescoped over it.

Normally the standard would be anchored by extending the tubular steel trolley pole some 5 or 6 feet into the ground or cement foundation. However, on account of the sandy soil, the mounting of this unit in Atlantic City entailed some rather serious engineering considerations.

A concrete foundation set on piling was installed first and then the standard mounted on a 47-inch square metal anchoring plate.

Problems of a similar nature to be met in installing Union Metal Standards call for special installation service and should be submitted to our engineering department for solution.

Design No. 1627, a smaller standard of similar design, is intended to be used between street intersections in connection with No. 1628.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, tubular steel trolley poles, or any of the electrical equipment. Globes, sockets, ventilators, wiring, tubular steel trolley poles, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Specify finish, height, and exact form of lighting unit to be used on top of standard.

Prices upon application.

Cat. No.	1628
Size, Base.....in.	22 Oct.
Diameter Fluted Shaft, Bottom....."	11
" " " Top....."	9 1/2
Size Door Opening, Over All....."	5 1/2 and 9x10
Height, Base....."	42
" Shaft....."	107
" to Signal Arm.....ft.	17
" " Source of Light....."	20
Approx. Ship. Wt., Standard only.....lbs.	625

Union Metal Lamp Standards For Bridge, Traffic and Special Lighting



No. 1242
With G. E. Form 12
Novalux Unit, M Casing
No. 104, 16-Inch Globe



No. 1652
With Union Metal Capital
G. E. Form 18 Novalux
Lantern, 18-Inch S Casing

The flexibility of the Union Metal line, makes these standards particularly popular for bridge and viaduct lighting.

They may be made in any height to meet different lighting conditions and a large variety of designs is available so that either large or small bases may be had.

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: Natural copper, verde antique, oxidized copper, or statuary bronze; copper jacketed shafts.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, ventilators, wiring, etc., quoted on application. Specified heights can be varied without materially affecting the cost.

When required, bases are arranged for cut-outs, etc.

Many different designs may be created by interchanging bases, shafts and capitals of Union Metal Lamp Standards.

Always specify the exact form of lighting unit that will be used on top of standard, height and finish desired.

Prices upon application.

Cat. No.	1242	1652
Size Base.....in.	17 Dia.	20 1/4 x 9 3/8
Diameter Fluted Shaft, Bottom.....in.	6 1/2	7
Diameter Fluted Shaft, Top....."	5	5
Size Door Opening, Over All....."	5 and 9x6 1/2	
Height Base....."	17	18
" Shaft....."	71	40
" to Source of Light....."	9 Ft. 2 In.	7 Ft. 1 1/2 In.
Approx. Ship. Wt., Standard only.....lbs.	145	200



Union Metal Entrance Standards

Union Metal Entrance Standards



No. 739



No. 841



No. 737

Standards are given shop coat of green metallastic paint, both inside and outside, before leaving factory and should be given finishing coat after erection. Following special finishes are furnished at extra charge when specified: Natural copper, verde antique, oxidized copper, or statuary bronze.

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, wiring, etc., quoted on application. Specified heights can be varied to suit conditions without materially affecting the cost.

Many different designs may be created by interchanging bases, shafts, and capitals of Union Metal Lamp Standards.

All designs can be furnished with copper jacketed shafts at an extra charge. Prices quoted upon application.

Always specify type of socket that will be used.

No. 739 Standards

Cat. No.	739
No. of Lights	1
Size Base at Ground Line, Square	13 1/4 inches
Diameter Fluted Shaft, Bottom	5 1/2
" " " Top	4
Size Globe and Fitter	14x8
Standard Height to Top of Globe	6 ft. 4 in.
Approximate Shipping Weight	110 pounds

No. 841 Standards

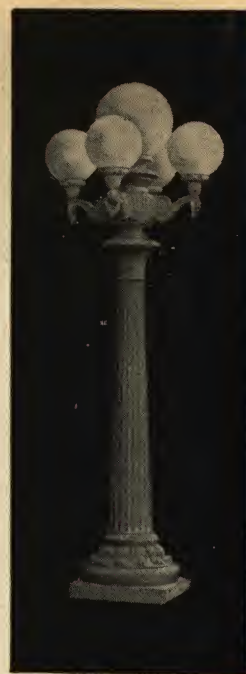
Cat. No.	841
No. of Lights	1
Size Base at Ground Line	22 inches
Diameter Fluted Shaft, Bottom	7
" " " Top	5
Size Globe and Fitter	16x8
Standard Height to Top of Globe	5 ft. 8 in.
Approximate Shipping Weight	95 pounds

No. 737 Standards

Cat. No.	737
No. of Lights	1
Size Base at Ground Line, Square	11 inches
Diameter Fluted Shaft, Bottom	8
" " " Top	5
Size Globe and Fitter	16x8
Standard Height to Top of Globe	5 ft. 7 in.
Approximate Shipping Weight	95 pounds



Nos. 721 and 837

No. 813-3 Lights
No. 750-5 Lights

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, wiring, etc., quoted on application.

No. 721 Standards

Cat. No.	721
No. of Lights	1
Size Base at Ground Line, Square	13 3/4 inches
Diameter Fluted Shaft, Bottom	9 1/2
" " " Top	6 1/2
Size Globe and Fitter	16x8
Standard Height to Top of Globe	6 ft. 2 in.
Approximate Shipping Weight	120 pounds

No. 837 Standards

Cat. No.	837
No. of Lights	1
Size Base at Ground Line, Square	9 1/4 inches
Diameter Fluted Shaft, Bottom	7
" " " Top	5
Size Globe and Fitter	12x6
Standard Height to Top of Globe	4 ft. 7 in.
Approximate Shipping Weight	90 pounds

No. 813 Standards

Cat. No.	813
No. of Lights	3
Size Base at Ground Line, Square	18 inches
Diameter Fluted Shaft, Bottom	8
" " " Top	5
Spread Center to Center Globes	22 1/2
Size Side Globes and Fitters	10x5
" Central Globe and Fitter	14x6
Standard Height to Top of Central Globe	7 ft. 5 in.
Approximate Shipping Weight	220 pounds

No. 750 Standards

Cat. No.	750
No. of Lights	5
Size Base at Ground Line, Square	18 inches
Diameter Fluted Shaft, Bottom	8
" " " Top	5
Spread Center to Center Globes	22 1/2
Size Side Globes and Fitters	10x5
" Central Globe and Fitter	14x6
Standard Height to Top of Central Globe	7 ft. 5 in.
Approximate Shipping Weight	230 pounds



Union Metal Wall Brackets



No. 775



No. 768

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, wiring, etc., quoted upon application. Brackets are given shop coat of green metallastic paint before leaving factory and should be given finishing coat after installation.

No. 775 Brackets

Cat. No.....	775
No. of Lights.....	1
Size Wall Plate.....	10x17
Spread from Wall to Center of Globe.....	26 $\frac{3}{8}$
Size Globe and Fitter.....	16x8
Approximate Shipping Weight.....	125

No. 768 Brackets

Cat. No.....	768
No. of Lights.....	1
Size Wall Plate.....	10x17
Spread from Wall to Center of Globe.....	26 $\frac{3}{8}$
Size Globe and Fitter.....	16x8
Approximate Shipping Weight.....	135

Union Metal Wall Brackets



No. 1518



No. 1119

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, wiring, etc., quoted upon application. Brackets are given shop coat of green metallastic paint before leaving factory and should be given finishing coat after installation.

No. 1518 Brackets

Cat. No.....	1518
No. of Lights.....	1
Size Wall Plate.....	10x17
Spread from Wall to Center of Globes.....	12
Size Globe and Fitter.....	12x6
Approximate Shipping Weight.....	65

No. 1119 Brackets

Cat. No.....	1119
No. of Lights.....	1
Size Wall Plate.....	5x12
Spread from Wall to Center of Globes.....	16
Size Globe and Fitter.....	12x6
Approximate Shipping Weight.....	50

Union Metal Exterior Newels



No. 823—3 Lights
No. 696—5 Lights

Catalogue numbers do not include globes, lamps, or any of the electrical equipment. Globes, sockets, wiring, etc. quoted upon application.

These fixtures are given shop coat of green metallastic paint before leaving factory and should be given finishing coat after installation. Following special finishes are furnished at extra charge when specified: natural copper, verde antique, oxidized copper, or statuary bronze.

Always specify type of socket that will be used.

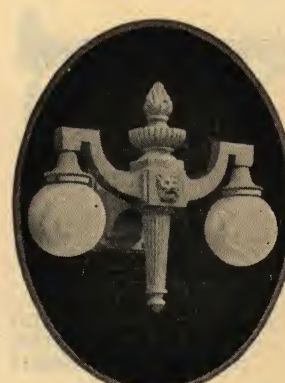
No. 823 Newels

Cat. No.....	823
No. of Lights.....	3
Size Base, Square.....	11
Spread Center to Center of Globes.....	23
Size Side Globes and Fitters.....	10x5
“ Central Globe and Fitter.....	14x6
Approximate Shipping Weight.....	90

No. 696 Newels

Cat. No.....	696
No. of Lights.....	5
Size Base, Square.....	11
Spread Center to Center of Globes.....	23
Size Side Globes and Fitters.....	10x5
“ Central Globe and Fitter.....	14x6
Approximate Shipping Weight.....	115

Union Metal Wall Brackets



No. 78



No. 773

Catalogue numbers do not include globes, lamps, or any of the electrical equipment.

No. 78 Brackets

Cat. No.....	78
No. of Lights.....	2
Size Wall Plate.....	11x14
Spread Center to Center of Globes.....	31 $\frac{1}{2}$
Size Side Globes and Fitter.....	12x6
“ Central Globe and Fitter.....	16x8
Approximate Shipping Weight.....	150

No. 773 Brackets

Cat. No.....	773
No. of Lights.....	7
Size Wall Plate.....	15
Spread Center to Center of Globes.....	6x3 $\frac{1}{4}$
Size Side Globes and Fitter.....	18x10
“ Central Globe and Fitter.....	175
Approximate Shipping Weight.....	

*Two plates, each 12 inches in diameter, 31 inches over all.



G-E Novalux Double Bend Brackets



With 20-inch Radial Wave Reflector

Series Bracket Complete	Cat. No. 103156
Multiple " "	152822
Reflector	46219

With Dome Radial Wave Reflector

Series Bracket Complete	174284
Multiple " "	174341
Reflector	174270

With 6½-inch Holophane Prismatic Refractor
With Canopy and Holder

Series Bracket Complete	174285
Multiple " "	174342
Refractor	174273

With 8½-inch Holophane Prismatic Refractor
With Canopy and Holder

Series Bracket Complete	174286
Multiple " "	174343
Refractor	174276

Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Right-angle Joint Brackets



With 20-inch Radial Wave Reflector

Series Bracket Complete	103157
Multiple " "	161356
Reflector	46219

With Dome Radial Wave Reflector

Series Bracket Complete	174292
Multiple " "	174349
Reflector	174270

With 6½-inch Holophane Prismatic Refractor

With Canopy and Holder

Series Bracket Complete	174293
Multiple " "	174350
Refractor	174273

With 8½-inch Holophane Prismatic Refractor

With Canopy and Holder

Series Bracket Complete	174294
Multiple " "	174351
Refractor	174276

Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Right-angle Bend Brackets



With 20-inch Radial Wave Reflector

Series Bracket Complete	Cat. No. 105691
Multiple " "	161350
Reflector	46219

With Dome Radial Wave Reflector

Series Bracket Complete	174288
Multiple " "	174345
Reflector	174270

With 6½-inch Holophane Prismatic Refractor

With Canopy and Holder

Series Bracket Complete	174289
Multiple " "	174346
Refractor	174273

With 8½-inch Holophane Prismatic Refractor

With Canopy and Holder

Series Bracket Complete	174290
Multiple " "	174347
Refractor	174276

Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux ¾-inch Gooseneck Brackets



With 20-inch Radial Wave Reflector

Series Bracket Complete	114768
Multiple " "	152833
Reflector	46219

With Dome Radial Wave Reflector

Series Bracket Complete	174304
Multiple " "	174365
Reflector	174270

With 6½-inch Holophane Prismatic Refractor
With Canopy and Holder

Series Bracket Complete	174305
Multiple " "	174366
Refractor	174273

With 8½-inch Holophane Prismatic Refractor
With Canopy and Holder

Series Bracket Complete	174306
Multiple " "	174367
Refractor	174276

Catalogue number does not include incandescent lamp.
Prices upon application.



G-E Novalux 20-inch Right-angle Joint Brackets



With 20-inch Wave Reflector

Series Bracket Complete.....	Cat. No. 111556
Multiple " ".....	161362
Reflector.....	46219

With Dome Radial Wave Reflector

Series Bracket Complete.....	174300
Multiple " ".....	174357
Reflector.....	174270

With 6½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Bracket Complete.....	174301
Multiple " ".....	174358
Refractor.....	174273

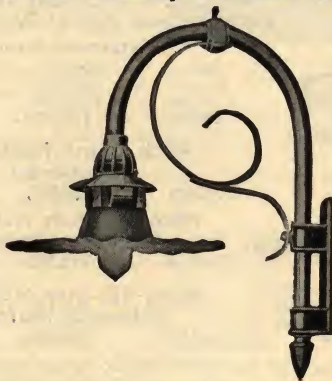
With 8½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Bracket Complete.....	174302
Multiple " ".....	174359
Refractor.....	174276

Catalogue number does not include incandescent lamp.

Prices upon application.

G-E Novalux Bishop's Crook Brackets



With 20-inch Radial Wave Reflector

Series Bracket Complete.....	114979
Multiple. " ".....	161339
Reflector.....	46219

With Dome Radial Wave Reflector

Series Bracket Complete.....	174280
Multiple " ".....	174338
Reflector.....	174270

With 6½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Bracket Complete.....	174281
Multiple " ".....	174338
Refractor.....	174273

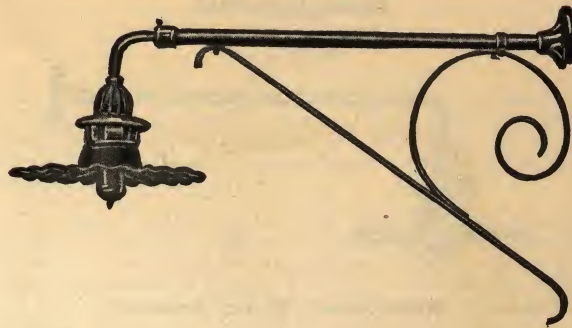
With 8½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Bracket Complete.....	174282
Multiple " ".....	174339
Refractor.....	174276

Catalogue number does not include incandescent lamp.

Prices upon application.

G-E Novalux Telescoping Brackets



Pipe bracket, ¾ and 1¼-inch. External wiring, 4 to 7-foot.

With 20-inch Radial Wave Reflector

Series Fixtures Complete.....	Cat. No. 174311
Multiple " ".....	174368
Reflector.....	46219

With Dome Radial Reflector

Series Fixtures Complete.....	174313
Multiple " ".....	174370
Reflector.....	174270

With 6½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Fixtures Complete.....	174314
Multiple " ".....	174371
Refractor.....	174273

With 8½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Fixtures Complete.....	174315
Multiple " ".....	174372
Refractor.....	174276

Catalogue number does not include incandescent lamp.

Prices upon application.

G-E Novalux ¾-inch Plain Gooseneck Brackets

With Petticoat Insulator



With 20-inch Radial Wave Reflector

Series Fixtures Complete.....	46213
Multiple " ".....	125323
Reflector.....	46219

With Dome Radial Wave Reflector

Series Fixtures Complete.....	174308
Multiple " ".....	174361
Reflector.....	174270

With 6½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Fixtures Complete.....	174309
Multiple " ".....	174362
Refractor.....	174273

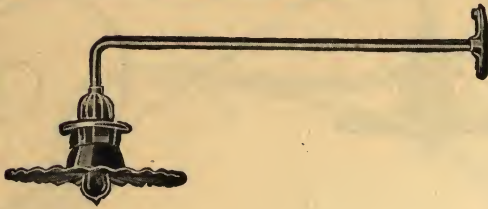
With 8½-inch Holophane Prismatic Refractor With Canopy and Holder

Series Fixtures Complete.....	174310
Multiple " ".....	174363
Refractor.....	174276

Cat. No. does not include lamp. Prices upon application.



G-E Novalux $\frac{3}{4}$ -inch Right Angle Bend Brackets External Wiring



With 20-inch Radial Reflector

	Cat. No.
Series Fixtures Complete.....	219322
Multiple ".....	219326
Reflector.....	46219

With Dome Radial Wave Reflector

Series Fixtures Complete.....	291323
Multiple ".....	219327
Reflector.....	174270

With $6\frac{1}{2}$ -inch Holophane Prismatic Refractor With Canopy and Holder

Series Fixtures Complete.....	219324
Multiple ".....	219328
Refractor.....	174273

With $8\frac{1}{2}$ -inch Holophane Prismatic Refractor With Canopy and Holder

Series Fixtures Complete.....	219325
Multiple ".....	219329
Refractor.....	174276

Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Center Span Fixtures

Eye Suspension with Cross-arm Insulator Hanger With 20-inch Radial Wave Reflectors



Catalogue Numbers		
Series Fixture Complete	Multiple Fixture Complete	Reflector or Refractor
74810	161383	46219

With Dome Radial Wave Reflectors

174317	174374	174270
With $6\frac{1}{2}$ -inch Holophane Prismatic Refractor *		
174318	174375	174273
With $8\frac{1}{2}$ -inch Holophane Prismatic Refractor *		
174319	174376	174276

Eye Suspension

Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Center Span Fixtures

Strain Insulator Suspension with 20-inch Radial Wave Reflector

Catalogue Numbers	
Series Fixture Complete	Reflector or Refractor
125359	42619

With Dome Radial Wave Reflector

174321	174270
With $6\frac{1}{2}$ -inch Holophane Prismatic Refractor *	
174322	174273
With $8\frac{1}{2}$ -inch Holophane Prismatic Refractor *	
174323	174267



*Furnished with canopy and holder
Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Center Span Fixtures Cross-arm Suspension With 20-inch Radial Wave Reflector

Catalogue Numbers		
Series Fixture Complete	Multiple Fixture Complete	Reflector or Refractor
103158	161389	46219

With Dome Radial Wave Reflector

174325	174386	174270
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With $6\frac{1}{2}$ -inch Holophane Prismatic Refractor *

174326	174387	174273
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With $8\frac{1}{2}$ -inch Holophane Prismatic Refractor *

174327	174388	174276
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Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Center Span Fixtures Eye Suspension with Line Insulator With 20-inch Radial Wave Reflector

Catalogue Numbers		
Series Fixture Complete	Multiple Fixture Complete	Reflector or Refractor
103159	161395	46219

With Dome Radial Wave Reflector

174333	174378	174270
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With $6\frac{1}{2}$ -inch Holophane Prismatic Refractor *

174334	174379	174273
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With $8\frac{1}{2}$ -inch Holophane Prismatic Refractor *

174335	174380	174276
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Eye Suspension
with Radial
Wave Reflector

Catalogue number does not include incandescent lamp.
Prices upon application.

G-E Novalux Center Span Fixtures

Cross-arm Suspension, Petticoat Insulator With 20-inch Radial Wave Reflector



Catalogue Numbers		
Series Fixture Complete	Multiple Fixture Complete	Reflector or Refractor
49055	125324	46219

With Dome Radial Wave Reflector

174329	184382	174270
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With $6\frac{1}{2}$ -inch Holophane Prismatic Refractor *

174330	174383	174273
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With $8\frac{1}{2}$ -inch Holophane Prismatic Refractor *

174331	174384	174276
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Catalogue number does not include incandescent lamp.
Prices upon application*Furnished with canopy and holder

G-E No. 46219 Radial Wave Reflectors



Radial wave reflector, 20 inches in diameter, for 40, 60, 80 and 100 c.p. series, and 40 and 60-watt multiple lamps.

Price upon application.

G-E No. 174270 Dome Radial Wave Reflectors



Radial wave reflector, 20 inches in diameter for 40, 60, 80, 100, 250 and 400 c. p. series, and 100 and 200-watt multiple lamps.

Price upon application.



G-E Novalux Eternalite Brackets For 100 C-P Mazda Lamps



Right Angle Bend for Internal Wiring

They must possess endurance. Lighting units in business or residential sections change frequently and are often obsolete in design before they are worn out. As outlying districts are built up brackets may be replaced by larger units but the brackets themselves are usually moved further out and again put in service. Anything that contributes to years of uninterrupted service is important in such a device.

With present bracket designs the reflector has been a source of maintenance expense. In spite of the best care in manufacture and shipment the porcelain enamel will wear or chip off and the steel reflector rusts. The wind will accomplish this after a few years and replacements have to be made. The ETERNALITE bracket eliminates this expense. Except for lamp replacement all maintenance cost ceases.

Construction

The pole plate, pipe and scroll are exactly the same as on the old brackets. The hood is of the same general design and construction but is slightly larger. The feature is the new porcelain which forms a combined insulator, reflector and socket holder all in one piece. The white porcelain, radial reflecting surface is fully as efficient as the best enameled reflector and restores every ray of light to the street surface. The entire porcelain is white inside and green outside. The diameter of the reflecting surface is 12½ inches.

Types

For internal wiring the leads pass through the pipe, hood and are connected directly to the binding posts on the interior of the porcelain.

For external wiring the porcelain is equipped with two integral lugs to which the leads are tied and through which they are led to the interior binding posts.

Advantages

1. No maintenance expense.
2. No rattling, discolored reflectors.
3. No depreciation in the efficiency of the reflecting surface.
4. Great mechanical and electrical strength.
5. High insulation—25,000-volt test.
6. Efficiency—economy—endurance.

External Wiring

*Cat. No.	Description of Bracket	Pipe Diam. Inches	Ship. Wt. Lbs.	Price Each
246622	Double Bend.....	1¼	50	\$23.75
246624	Right Angle Bend.....	1¼	45	\$23.25
246626	Joint.....	1¼	40	\$23.25

Internal Wiring

*Cat. No.	Description of Bracket	Pipe Diam. Inches	Ship. Wt. Lbs.	Price Each
246621	Double Bend.....	1¼	50	\$22.50
246623	Right Angle Bend.....	1¼	45	\$22.00
246625	Joint.....	1¼	40	\$22.00

*Standard finish, black japan; for galvanized iron finish add \$3.25 to the list price.

Catalogue numbers and prices do not include Mazda lamps.



With Lugs for External Wiring

Form 1 Novalux Industrial Lighting Units

Description

The Form 1 Novalux fixture (canopy type) is a lighting unit designed for industrial service. These units have been referred to as the Hog Island fixtures because the first large installation of them was made at the American Shipbuilding Corporation, Hog Island, Pa.

The fixture consists of the Form 1 Novalux top and the luminous arc canopy and globe. This combination permits the use of a band refractor large enough (10½ in.) to accommodate the 1000-watt Mazda "C" lamp. An internal reflector may be used in the place of the refractor and, when this is done, the fixture may be equipped with either a clear or a diffusing globe.

In installations where the fixture is to be hung in such a position that light is wanted on only one side, a suitable globe is furnished. In this case half the globe is silvered and copper coated and is thus converted into a mirror reflector 180 degrees wide. Globes of this kind are used largely around sides of shipbuilding ways and also around the outer edge of foundries and other large areas where important work is being done.

The Form 1 industrial unit is a straight multiple fixture and no room is provided inside for an auto transformer.

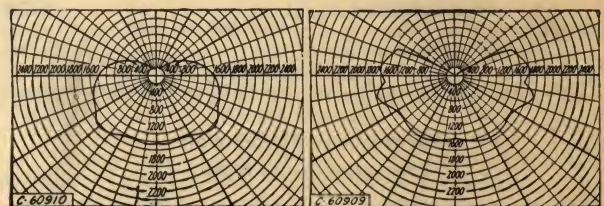
The top of the lamp can be arranged for either eye suspension or bracket suspension.

These units can be furnished for operating 300-, 400-, 500-, 750- or 1000-watt lamps but, when a large area is to be lighted, it is important to install a light source of very high candle-power.

At Hog Island the units are mounted on poles 50 ft. high. Each unit is equipped with a 10½-in. band refractor, a No. 14 clear globe and a 1000-watt lamp. Four units are mounted on each pole so that the combined candle-power gives abundant illumination over an enormous area.

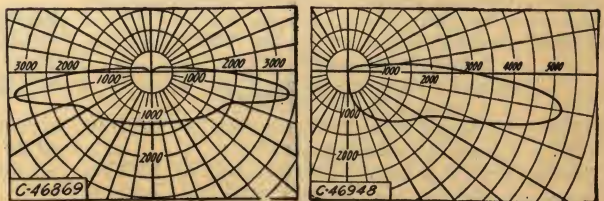
Distribution Curves

Of Units with 1000 Watt Mazda Lamps



Unit with No. 14 Clear Glass Globe and Internal Reflector No. 308789

Unit with No. 14 Light Carrara Glass Globe and Internal Reflector No. 308789

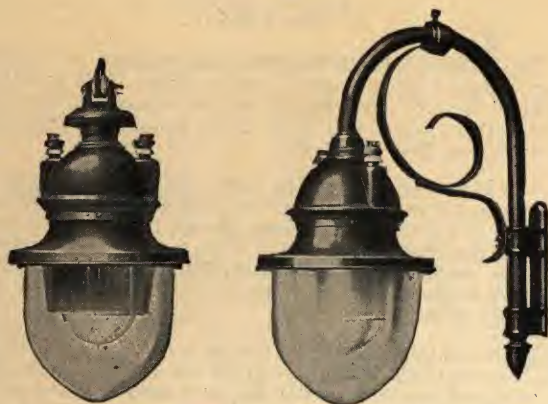


Unit with No. 14 Clear Glass Globe and 10½-inch Holophane Prismatic Band Glass Reflector No. 1312160

Unit with No. 101 Globe, Silvered and Coppered Throughout at an Angle of 190 Degrees and 10½-inch Holophane Prismatic Band Glass Reflector No. 1312160



Form 1 Novalux Industrial Lighting Units



For Pendant Suspension
10½-inch Band Refractor
No. 1312160 and No. 14
Clear Globe

For Bracket Suspension
10½-inch Band Refractor
No. 1312160 and No. 14
Clear Globe

For Pendant Suspension

For 300, 400 or 500 Watts

Cat. No.	Equipped With	Price Each
209104	10½-in. Band Refractor Cat. No. 1312160 and No. 14 Clear Globe.....	\$40.00
218201	10½-in. Band Refractor Cat. No. 1312160 and No. 101 Globe Silvered and Coppered throughout at an Angle of 180 Degrees..	54.50
209105	Internal Reflector Cat. No. 308789 and No. 14 Clear Globe	29.50
209106	Internal Reflector Cat. No. 308789 and No. 14 Diffusing Globe.....	31.25
For 750 or 1000 Watts		
209107	10½-in. Band Refractor Cat. No. 1312160 and No. 14 Clear Globe	40.00
218202	10½-in. Band Refractor Cat. No. 1312160 and No. 101 Globe Silvered and Coppered throughout at an Angle of 180 Degrees..	54.50
209108	Internal Reflector Cat. No. 308789 and No. 14 Clear Globe	29.50
209109	Internal Reflector Cat. No. 308789 and No. 14 Diffusing Globe	31.25

Cat. Nos. and prices do not include Mazda lamps.

For Bracket Suspension

For 300, 400 or 500 Watts

Cat. No.	Equipped With	Price Each
218203	10½-inch Band Refractor Cat. No. 1312160 and No. 14 Clear Globe	\$40.00
218204	10½-inch Band Refractor Cat. No. 1312160 and No. 101 Globe Silvered and Coppered throughout at an Angle of 180 Degrees ..	45.50
218205	Internal Reflector Cat. No. 308789 and No. 14 Clear Globe	29.50
218206	Internal Reflector Cat. No. 308789 and No. 14 Diffusing Globe	31.25
For 750 or 1000 Watts		
218207	10½-inch Band Refractor Cat. No. 1312160 and No. 14 Clear Globe	40.00
218208	10½-inch Band Refractor Cat. No. 1312160 and No. 101 Globe Silvered and Coppered throughout at an Angle of 180 Degrees..	54.50
218209	Internal Reflector Cat. No. 308789 and No. 14 Clear Globe	29.50
218210	Internal Reflector Cat. No. 308789 and No. 14 Diffusing Globe	31.25

Prices do not include brackets or Mazda lamps.

G-E Novalux Pendent Units

Form 6



Pendent Unit Equipped with No. 87 Light Carrara Globe

For 250, 400 and 600 C. P. Series Mazda Lamps

*Without Auto-transformers

Cat. No.	Lamp Rating Amperes	Equipped with	Approx. Ship. Wt., Lbs.
170520	5.5, 6.6 or 7.5	No. 87 Light Carrara Globe..	55
170521	5.5, 6.6 or 7.5	" 87 " " " "	
		and No. 170556 Concentric Reflector.....	60
170522	5.5, 6.6 or 7.5	Cat. No. 1340382 Bowl Refractor and No. 170556 Concentric Reflector.....	55
202208	15	No. 174274 Band Refractor and No. 170556 Reflector..	55
248246	15	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	65
260418	5.5, 6.6 or 7.5	No. 120 Light Alabaster Rippled Globe.....	55
260419	5.5, 6.6 or 7.5	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	60

For 400 C. P. Series Mazda Lamps

†Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

170532	15	No. 87 Light Carrara Globe..	65
170533	15	" 87 " " " "	
		and No. 170556 Concentric Reflector.....	70
170534	15	Cat. No. 1340382 Bowl Refractor and No. 170556 Concentric Reflector	65
202215	15	No. 174274 Band Refractor and No. 170556 Reflector...	65
248249	15	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	75
260432	15	No. 120 Light Alabaster Rippled Globe.....	65
260438	15	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	70

*These units can be equipped with multiple socket for operating straight multiple lamps.

†Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles.

Cat. No. does not include Mazda lamps.

Prices quoted upon application.



G-E Novalux Pendant Units

Form 6



Pendant Unit Equipped with No. 87 Light Carrara Globe
and Concentric Reflector No. 170556

For 400 C. P. Series Mazda Lamps

†Complete with Auto-transformer for 7.5 Amperes,
60-cycle Series Circuits

Cat. No.	Lamp Rating Amperes	Equipped with	Approx. Ship. Wt., Lbs.
170559	15	No. 87 Light Carrara Globe...	65
170560	15	" 87 " " "	
		and No. 170556 Concentric Reflector.....	70
170561	15	Cat. No. 1340382 Bowl Refractor and No. 170556 Concentric Reflector.....	65
202217	15	No. 174274 Band Refractor and No. 170556 Reflector...	65
248252	15	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	75
260435	15	No. 120 Light Alabaster Rippled Globe.....	65
260441	15	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	70

For 600 C. P. Series Mazda Lamps

†Complete with Auto-transformer for 6.6 Amperes
60-cycle Series Circuits

170544	20	No. 87 Light Carrara Globe...	65
170545	20	" 87 " " "	
		and No. 170556 Concentric Reflector.....	70
170546	20	Cat. No. 1340382 Prismatic Bowl Reflector and No. 170556 Concentric Reflector.....	65
202219	20	No. 174274 Band Refractor and No. 170556 Reflector...	65
248250	20	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	75
260433	20	No. 120 Light Alabaster Rippled Globe.....	65
260439	20	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	70

†Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles. Cat. No. does not include Mazda lamps.

Prices quoted upon application.

G-E Novalux Pendant Units

Form 6



Pendant Unit Equipped with Concentric Reflector No. 170556 and Prismatic Bowl Refractor No. 1340382

For 600 C. P. Series Mazda Lamps

†Complete with Auto-transformer for 7.5 Amperes,
60-cycle Series Circuits

Cat. No.	Lamp Rating Amperes	Equipped with	Approx. Ship. Wt., Lbs.
171862	20	No. 87 Light Carrara Globe...	65
171863	20	" 87 " " "	
		and No. 170556 Concentric Reflector.....	70
171864	20	Cat. No. 1340382 Prismatic Bowl Refractor and No. 170556 Concentric Reflector.....	65
202221	20	No. 174274 Band Refractor and No. 170556 Reflector...	65
248253	20	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	75
260436	20	No. 120 Light Alabaster Rippled Globe.....	65
260442	20	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	70

For 1000 C. P. Series Mazda Lamps

†Complete with Auto-transformer for 6.6 Amperes,
60-cycle Series Circuits

170550	20	No. 87 Light Carrara Globe...	65
170551	20	" 87 " " "	
		and No. 170556 Concentric Reflector.....	70
170552	20	Cat. No. 1340382 Prismatic Bowl Refractor and No. 170556 Concentric Reflector.....	65
202223	20	No. 174274 Band Refractor and No. 170556 Reflector...	65
248251	20	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	75
260434	20	No. 120 Light Alabaster Rippled Globe.....	65
260440	20	" 120 " " " and Cat. No. 170556 Reflector.....	70

†Complete with Auto-transformer for 7.5 Amperes,
60-cycle Series Circuits

171868	20	No. 87 Light Carrara Globe...	65
171869	20	" 87 " " "	
		and No. 170556 Concentric Reflector...	70
171870	20	Cat. No. 1340382 Prismatic Bowl Refractor and No. 170556 Concentric Reflector...	65
202225	20	No. 174274 Band Refractor and No. 170556 Reflector...	65
248254	20	No. 116 Rippled Globe and No. 1340228 Dome Refractor.....	75
260437	20	No. 120 Light Alabaster Rippled Globe...	65
260443	20	" 120 " " " and Cat. No. 170556 Reflector.....	70

†Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles. Cat. No. does not include Mazda lamps.

Prices quoted upon application.



G-E Novalux Pendent Units

Form 6

The Form 6 units embody the very latest ideas in design, both of an artistic and mechanical nature.

They are made for use with the 5.5, 6.6 or 7.5 amp. straight series Mazda lamps and for use with the 400 c-p. 15 amp., 600 and 1000 c-p. 20 amp. Mazda series lamps. The units for operating the high candle-power lamps are equipped with self-contained auto-transformers so that they can be operated on standard constant current circuits of either 6.6 or 7.5 amperes.

The 600 c-p. 20 amp. unit has a tap for a 400 c-p. 15 amp. lamp. The 1000 c-p. 20 amp. unit has a tap for a 600 c-p. 20 amp. lamp. In selecting a unit, provide for future improvements by being able to operate the next larger size of lamp.

Characteristics

The high operating temperature of these lamps has been compensated for by ventilating the earlier fixture designs. However, if the exposed surfaces of the fixture and glassware provide sufficient area, ample cooling can be provided in an air-tight unit by radiation and conduction. Such a unit is dustproof, bugproof and moistureproof.

Construction

The Form 6 Novalux unit is air-tight. The internal temperatures are so low that the life of the lamps is in no way lessened. The advantages are obvious; when an enclosing globe is used, no dust can collect in the lamp bulb or on the inner surface of the globe. The loss of light due to the accumulation of dirt on these surfaces runs as high as 40 per cent even where the units are cleaned once a month. The elimination of dust and dirt is a great stride toward higher efficiencies and better service. Such a fixture is absolutely watertight and bugproof.

Types

The following combinations of light distributing equipment can be used with the Form 6 Unit:

1. No. 87 LIGHT CARRARA OUTER GLOBE. Recommended for secondary business districts where the spacing is close and where it is desired to direct a certain amount of light upward.

2. No. 87 LIGHT CARRARA OUTER GLOBE AND 20-IN. REFLECTOR. Recommended for residential districts where the spacing is not over 250 ft.

3. HOLOPHANE BOWL REFRACTOR AND 20-IN. REFLECTOR. Recommended for the lighting of main thoroughfares and residential districts where the spacing is over 250 ft.

4. HOLOPHANE BAND REFRACTOR AND 20-IN. REFLECTOR. Recommended as an alternative to the bowl type for installations where it is desirable to have an inconspicuous piece of glassware.

5. HOLOPHANE DOME REFRACTOR AND RIPPLED OUTER GLOBE. Particularly recommended for all classes of lighting where bowl or band refractors have been used in the past.

The last named combination has many advantages. The rippled globe has minute protuberances and depressions in its inner surface. This breaks up the light, provides adequate diffusion but does not interfere with the directional effect of the refractor. The absorption is practically that of clear glass.

The rippled globe is superior to the ordinary diffusing globe in that:

1. Its efficiency is 15 to 30 per cent higher.
2. Its appearance is better since it is the only glass which lends sparkle to the Mazda lamp.

3. It permits the use of the Holophane dome refractor, giving three times the light at points midway between lamps. When the rippled globe and dome refractor are compared with the bowl refractor, the former are found to have the following advantages:

1. More light—15 per cent more total lumens.

2. Less absorption during operation.

One surface exposed to dust and smoke instead of three.

3. Uniform distribution.

Directly under the lamp 200 per cent more light.

At the 45 degree angle, 100 per cent more light.

At the 10 degree angle, only 15 per cent less.

4. Improved appearance.

A larger secondary source of light.

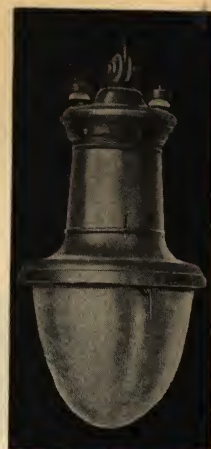
Sparkling—not dead.

G-E Novalux Pendent Units

Form 6



Pendent Unit Equipped with Reflector No. 170556 and Prismatic Band Reflector No. 174274



Pendent Unit Equipped with No. 116 Clear Rippled Globe and Prismatic Dome Reflector No. 1340228

Straight Multiple Type

Cat. No.	Lamp Rating Watts	Equipped with	Approx. Ship. Wt., Lbs.
202201	300, 400 or 500	No. 87 Light Carrara Globe and No. 170556 Reflector..	55
202206	750 or 1000		
202202	300, 400 or 500		60
202207	750 or 1000		
202203	300, 400, or 500	No. 1340382 Bowl Refractor and No. 170556 Reflector.	55
202204	300, 400 or 500	No. 174274 Band Refractor and No. 170556 Reflector.	55
248248	300, 400 or 500	No. 116 Clear Rippled Globe and No. 1340228 Dome Refractor	65
260428	300, 400 or 500	No. 120 Light Alabaster Rippled Globe	55
260426	750 or 1000		
260429	300, 400 or 500		60
260427	750 or 1000		

*IL Series Transformer Type
400, 600 and 1000 C. P.

Cat. No.	Lamp Rating Amperes	Equipped with	Approx. Ship. Wt., Lbs.
202210	15 or 20	No. 87 Light Carrara Globe	55
202211	15 " 20	" 87 " " and No. 170556 Reflector	60
202212	15 " 20	No. 1340382 Bowl Refractor and No. 170556 Reflector	55
202213	15 " 20	No. 174274 Band Refractor and No. 170556 Reflector	55
248247	15 " 20	No. 116 Clear Rippled Globe and No. 1340228 Dome Refractor	65
260422	15 " 30	No. 120 Light Alabaster Rippled Globe	55
260423	15 " 30	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector	60

Series Rectangular Auto-Transformers
For Novalux Units

400 Candle Power

Cat. No.	AMPERES Primary	Secondary	Ship. Wt. Lbs.	Cat. No.	AMPERES Primary	Secondary	Ship. Wt. Lbs.
169559	6.6	15	17	169562	7.5	15	16
†169560	6.6	20	17	†169563	7.5	20	16
†159561	6.6	20	17	†159564	7.5	20	16

*For use with, but not including a Type IL series transformer, aerial type, which may be mounted on the cross of the nearest pole.

†Has tap for 400 candle-power lamp.

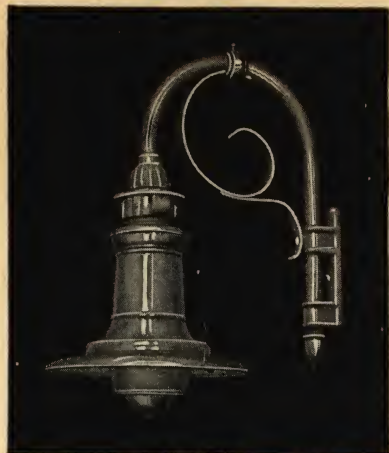
‡Has tap for 600 candle-power lamp.

Catalogue No. does not include Mazda lamps.

Prices quoted upon application.



G-E Novalux Bracket Type Units Form 6



Unit with Reflector No. 170556
and Prismatic Band Refractor No. 174274

The bracket type is equipped with the same insulator that is used with series incandescent brackets. This interposes the insulation between the unit and the pole which will withstand voltage strains up to 20000 volts. This insulator has great mechanical as well as electrical strength because it is composed of only massive porcelain. In addition to this important "Safety First" feature, it is adapted for either open or concealed wiring of the unit.

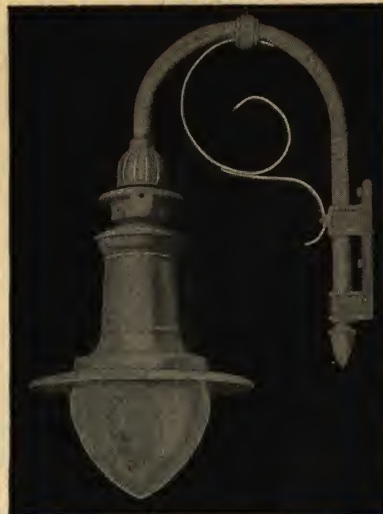
Straight Series Type For 250, 400 and 600 Candle Power

Cat. No.	Lamp Rating Amperes	Equipped With	Approx. Ship. Wt., Lbs.
170523	5.5, 6.6 or 7.5	No. 87 Light Carrara Globe..	85
170524	5.5, 6.6 " 7.5	No. 87 Light Carrara Globe and Cat. No. 170556 Reflector.....	90
170525	5.5, 6.6 or 7.5	Cat. No. 1340382 Bowl Refractor and Cat. No. 170556 Reflector.....	85
202232	5.5, 6.6 or 7.5	Cat. No. 174274 Band Refractor and Cat. No. 170556 Reflector.....	85
248255	5.5, 6.6 or 7.5	No. 116 Clear Rippled Globe and Cat. No. 1340228 Dome Refractor.....	95
260456	5.5, 6.6 or 7.5	No. 120 Light Alabaster Rippled Globe.....	85
260457	5.5, 6.6 or 7.5	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	90

Straight Multiple Type

Cat. No.	Lamp Rating Watts	Equipped With	Approx. Ship. Wt., Lbs.
204982	300, 400 or 500	No. 87 Light Carrara Globe.....	85
202229	750 or 1000		
204983	300, 400 or 500	No. 87 Light Carrara Globe and Cat. No. 170556 Reflector.....	90
202230	750 or 1000		
204984	300, 400 or 500	Cat. No. 1340382 Bowl Refractor and Cat. No. 170556 Reflector.....	85
202227	300, 400 or 500	Cat. No. 174274 Band Refractor and Cat. No. 170556 Reflector.....	85
248257	300, 400 or 500	No. 116 Clear Rippled Globe and Cat. No. 1340228 Dome Refractor.....	95
260466	300, 400 or 500	No. 120 Light Alabaster Rippled Globe.....	85
260464	750 or 1000		
260467	300, 400 or 500	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector..	90
260465	750 or 1000		

G-E Novalux Bracket Type Units Form 6



Unit with No. 87 Light Carrara Globe and Reflector No. 170556

The bracket type is equipped with the same insulator that is used with series incandescent brackets. This interposes the insulation between the unit and the pole which will withstand voltage strains up to 20000 volts. This insulator has great mechanical as well as electrical strength because it is composed of only massive porcelain. In addition to this important "Safety First" feature, it is adapted for either open or concealed wiring of the unit.

*IL Series Transformer Type For 400, 600 and 1000 Candle Power

Cat. No.	Lamp Rating Amperes	Equipped With	Approx. Ship. Wt., Lbs.
202234	15 or 20	No. 87 Light Carrara Globe.....	85
202235	15 " 20	" 87 " " and No. 170556 Reflector.....	90
202236	15 or 20	No. 1340382 Bowl Refractor and No. 170556 Reflector.....	85
202237	15 or 20	No. 174274 Band Refractor and No. 170556 Reflector.....	85
248256	15 or 20	No. 116 Clear Rippled Globe and No. 1340228 Dome Refractor...	95
260460	15 or 20	No. 120 Light Alabaster Rippled Globe.....	85
260461	15 or 20	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	90

Auto-transformer Type for 60-cycle Series Circuits For 400 Candle Power

Cat. No.	For 6.6-Amp. Circuits	For 7.5-Amp. Circuits	Equipped With	Approx. Ship. Wt., Lbs.
170535	170562		No. 87 Light Carrara Globe.....	85
170536	170563		" 87 " " and Cat. No. 170556 Reflector.....	90
170537	170564		Cat. No. 1340382 Bowl Refractor and Cat. No. 170556 Reflector...	85
202239	202241		Cat. No. 174274 Band Refractor and Cat. No. 170556 Reflector.....	85
248258	248261		No. 116 Clear Rippled Globe and Cat. No. 1340228 Dome Refractor.	95
260470	260473		No. 120 Light Alabaster Rippled Globe.....	85
260476	260479		No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector.....	90

Lamp rating, 15 amperes.

*For use with, but not including a Type IL series transformer, aerial type, which may be mounted on the cross of the nearest pole.

Catalogue numbers do not include Mazda lamps or brackets.

Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles at an increased price.

Catalogue numbers include high-voltage insulator and cast iron hood for attaching to 1¼-inch pipe.

Prices upon application.

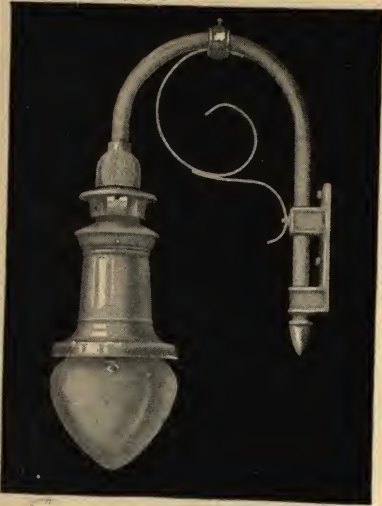
Catalogue numbers do not include Mazda lamps or brackets.

Catalogue numbers include high-voltage insulator, and cast iron hood for attaching to 1¼-inch pipe. Special hoods can be supplied without any increase in price for 1, 1½ or 2-inch pipe.

Prices upon application.



G-E Novalux Bracket Type Units Form 6



The bracket type is equipped with the same insulator that is used with series incandescent brackets. This interposes the insulation between the unit and the pole which will withstand voltage strains up to 20000 volts. This insulator has great mechanical as well as electrical strength because it is composed of only massive porcelain. In addition to this important "Safety First" feature, it is adapted for either open or concealed wiring of the unit.

For 600 Candle Power

Cat. No.	For 6.6-Amp. Circuits	For 7.5-Amp. Circuits	Equipped With	Approx. Ship. Wt., Lbs.
170547	171865	No. 87 Light Carrara Globe	85	
170548	171866	" 87 " " and Cat. No. 170556 Reflector	90	
170549	171867	Cat. No. 1340382 Bowl Refractor and Cat. No. 170556 Reflector	85	
202243	202245	Cat. No. 174274 Band Refractor and Cat. No. 170556 Reflector	85	
248259	248262	No. 116 Clear Rippled Globe and Cat. No. 1340228 Dome Refractor	95	
260471	260474	No. 120 Light Alabaster Rippled Globe	85	
260477	260480	No. 120 Light Alabaster Rippled Globe and Cat. No. 170556 Reflector	90	

Lamp rating, 20 amperes.

For 1000 Candle Power

Cat. No.		170556 Candle Power			
For 6.6 Amp. Circuits	For 7.5 Amp. Circuits	Equipped With		Approx. Ship. Wt., Lbs.	
170553	171871	No. 87	Light Carrara Globe	85	
170554	171872	" 87	" " " and No. 170556 Reflector	90	
170555	171873	No. 1340392	Bowl Refractor and No. 170556 Reflector	85	
202247	202249	No. 174274	Band Refractor and No. 170556 Reflector	85	
248260	248263	No. 116	Clear Rippled Globe and No. 1340228 Dome Refractor	95	
260472	260475	No. 120	Light Alabaster Rippled Globe	85	
260478	260481	No. 120	Light Alabaster Rippled Globe and Cat. No. 170556 Re- flector	90	

Lamp rating, 20 amperes.

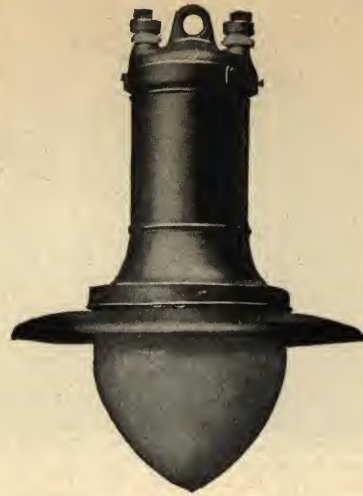
Catalogue numbers do not include Mazda lamps or brackets.

Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles at an increased price.

Catalogue numbers include high-voltage insulator and cast iron hood for attaching to 1¼-inch pipe.

Prices upon application.

G-E Novalux Pendant Units Form 11



Unit Equipped With No. 98 Diffusing Globe and 18-inch Refractor, No. 1345792

Straight Series Type

For 250, 400 and 600 Candle Power

Cat. No.	Lamp Rating Amperes	Equipped With	Approx. Ship. Wt. Lbs.
221294	6.6 or 7.5	No. 98 Diffusing Globe	30
221295	6.6 " 7.5	" 98 " " and Cat. No. 1345792 Reflector	35
221297	6.6 " 7.5	Cat. No. 1340382 Closed Base Bowl Refractor and Cat. No. 1345792 Reflector	35
221299	6.6 " 7.5	Cat. No. 174274 Band Refractor and Cat. No. 1345792 Reflector	35
221306	6.6 " 7.5	Cat. No. 221200 Radial Wave Reflector	35

Straight Multiple Type

Cat. No.	Lamp Rating Watts	Equipped With	Approx. Ship. Wt. Lbs.
221307	300, 400 or 500	No. 98 Diffusing Globe	30
221320	750 or 1000	" 98 " " and Cat. No. 1345792 Reflector	35
221308	300, 400 or 500	Cat. No. 1340382 Closed Base Bowl Refractor and Cat. No. 1345792 Reflector	35
221321	750 or 1000	Cat. No. 174274 Band Refractor and Cat. No. 1345792 Reflector	35
221310	300, 400 or 500	Cat. No. 221200 Radial Wave Reflector	35
221312	300, 400 or 500	Cat. No. 1345792 Reflector	35
221319	300, 400 or 500	Cat. No. 221200 Radial Wave Reflector	35
221322	750 or 1000	Cat. No. 221200 Radial Wave Reflector	35

*IL Transformer Type

For 400, 600 and 1000 Candle Power

Cat. No.	Lamp Rating Amperes	Equipped With	Approx. Ship. Wt. Lbs.
221323	15 or 20	No. 98 Diffusing Globe	30
221324	15 " 20	" 98 " " and Cat. No. 1345792 Reflector	35
221326	15 " 20	Cat. No. 1340382 Closed Base Bowl Refractor and Cat. No. 1345792 Reflector	35
221328	15 " 20	Cat. No. 174274 Band Refractor and Cat. No. 1345792 Reflector	35
221335	15 " 20	Cat. No. 221200 Radial Wave Reflector	35

Prices and catalogue numbers do not include Mazda lamps.

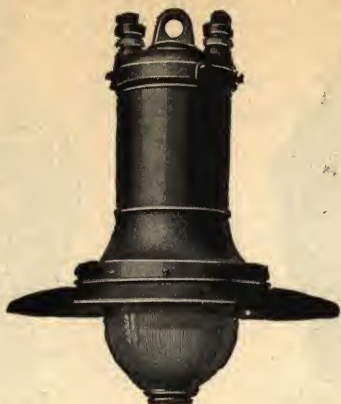
*For use with, but not including a Type IL series transformer, aerial type, which may be mounted on the cross-arm of the nearest pole.

Prices upon application.



G-E Novalux Pendant Units

Form 11



Unit Equipped with No. 1340382 Bowl Refractor and 18-inch Reflector, No. 1345792

Auto-transformer Type for 60-cycle Series Circuits For 400 Candle Power

CAT. No.			Approx
For 6.6 Amp. Circuits	For 7.5 Amp. Circuits	Equipped With	Ship. Wt., Lbs
221336	221375	No. 98 Diffusing Globe	40
221337	221376	" 98 " " and Cat. No. 1345792 Reflector	45
221339	221378	Cat. No. 1340382 Closed Base Bowl Refractor and Cat. No. 1345792 Reflector	45
221341	221380	Cat. No. 174274 Band Refractor and Cat. No. 1345792 Reflector	45
221348	221387	Cat. No. 221200 Radial Wave Re- flector	45

Lamp rating, 15 amperes.

For 600 Candle Power

Cat. No.			Approx.
For 6.6 Amp. Circuits	For 7.5 Amp. Circuits	Equipped With	Ship. Wt., Lbs
221349	221388	No. 98 Diffusing Globe	40
221350	221389	" 98 " " and No. 1345792 Reflector	45
221352	221391	No. 1340382 Closed Base Bowl Re- fractor and No. 1345792 Reflector	45
221354	221393	No. 174274 Band Refractor and No. 1345792 Reflector	45
221361	221400	No. 221200 Radial Wave Reflector	45

Lamp rating, 20 amperes.

For 1000 Candle Power

Cat. No.				Approx.
For 6.6 Amp. Circuits	For 7.5 Amp. Circuits	Equipped With		Ship. Wt., Lbs.
221362	221401	No. 98	Diffusing Globe.....	40
221363	221402	" 98	" " and No. 1345792 Reflector.....	45
221365	221404	No. 1340382	Closed Base Bowl Refractor and No. 134592 Reflector.....	45
221367	221406	No. 174274	Band Refractor and No. 1345792 Reflector.....	45
221374	221413	No. 221200	Radial Wave Reflector..	45

Lamp rating, 20 amperes.

Prices and catalogue numbers do not include Mazda lamps. Special auto-transformers can be furnished for any alternating current circuit, from 3 to 10 amperes, 25 to 133 cycles, at an increased price.

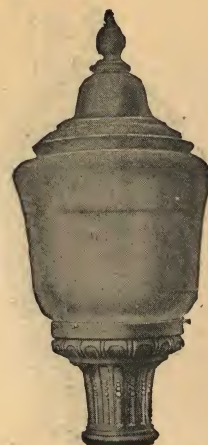
Prices upon application.

G-E Novalux Ornamental Units

Form 8, with Form F Casing



No. 39 Globe and Metal Canopy



No. 39 Globe and Glass Canopy

For Series Circuits Straight Series Type

5.5, 6.6 or 7.5 Amperes

With Series Film Cutout Socket
For 60, 80 or 100 C. P. Lamps

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
176023	No. 39 Diffusing Globe and Metal Canopy	88
205913	" 39 " " " Glass " "	88
205915	Rippled Globe No. 109 " Metal " "	88
205917	" " " 109, Dome Refractor and Metal Canopy	88
For 250, 400 or 600 C. P. Lamps		
176024	No. 39 Diffusing Globe and Metal Canopy	88
205919	" 39 " " " Glass " "	88
205921	Rippled Globe No. 109 " Metal " "	88
205923	" " " 109, Dome Refractor and Metal Canopy	88

†IL Series Transformer Type

For 400, 600 or 1000 C. P. Lamps
15 or 20 Amperes
With Skeleton Multiple Sockets

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
176025	No. 39 Diffusing Globe and Metal Canopy	88
205925	" 39 " " " Glass " "	88
205927	Rippled Globe No. 109 " Metal " "	88
205929	" " " 109, Dome Refractor and Metal Canopy	88

For Multiple Circuits Straight Multiple Type For 200-watt Lamps

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
176026	No. 39 Diffusing Globe and Metal Canopy	88
205931	" 39 " " " Glass " "	88
205933	Rippled Globe No. 109 " Metal " "	88
205935	" " " 109, Dome Refractor and Metal Canopy	88
For 300, 400 or 500-watt Lamps		
176027	No. 39 Diffusing Globe and Metal Canopy	88
205937	" 39 " " " Glass " "	88
205939	Rippled Globe No. 109 " Metal " "	88
205941	" " " 109, Dome Refractor and Metal Canopy	88

For 750 or 1000-watt Lamps

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
176028	No. 39 Diffusing Globe and Metal Canopy	88
205943	" 39 " " " Glass " "	88
205945	Rippled Globe No. 109 " Metal " "	88

*Catalogue Number does not include Mazda lamp or pole.
†For use with, but not including a Type IL series transformer which should be mounted in the base of the pole or in a manhole, or buried directly in the ground.



G-E Novalux Ornamental Units

Form 8, with Form K Casing

Rippled Globe
and Metal CanopyRippled Globe
Dome RefractorFor Series Circuits
Straight Series Type

5.5, 6.6, or 7.5 Amperes

With Series Film Cutout Socket
For 60, 80 or 100 C. P. Lamps

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
199575	No. 39 Diffusing Globe and Metal Canopy	88
205914	" 39 " " Glass " "	88
205916	Rippled Globe No. 109 " Metal " "	88
205918	" " " 109, Dome Refractor and Metal Canopy.....	88
For 250, 400 or 600 C. P. Lamps		
199576	No. 39 Diffusing Globe and Metal Canopy	88
205920	" 39 " " Glass " "	88
205922	Rippled Globe No. 109 " Metal " "	88
205924	" " " 109, Dome Refractor and Metal Canopy.....	88

†IL Series Transformer Type

For 400, 600 or 1000 C. P. Lamps
15 or 20 Amperes

With Skeleton Multiple Sockets

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
199577	No. 39 Diffusing Globe and Metal Canopy	88
205926	" 39 " " Glass " "	88
205928	Rippled Globe No. 109 " Metal " "	88
205930	" " " 109, Dome Refractor and Metal Canopy.....	88

For Multiple Circuits
Straight Multiple Type

For 200-watt Lamps

*Cat. No. of Complete Unit	Equipped With	Approx. Ship. Wt., Lbs.
199578	No. 39 Diffusing Globe and Metal Canopy	88
205932	" 39 " " Glass " "	88
205934	Rippled Globe No. 109 " Metal " "	88
205936	" " " 109, Dome Refractor and Metal Canopy.....	88
For 300, 400 or 500-watt Lamps		
199579	No. 39 Diffusing Globe and Metal Canopy	88
205938	" 39 " " Glass " "	88
205940	Rippled Globe No. 109 " Metal " "	88
205942	" " " 109, Dome Refractor and Metal Canopy.....	88

For 750 or 1000-watt Lamps

199580	No. 39 Diffusing Globe and Metal Canopy	88
205944	" 39 " " Glass " "	88
205946	Rippled Globe No. 109 " Metal " "	88

*Catalogue Number does not include Mazda lamp or pole.
†For use with, but not including a Type IL series transformer which should be mounted in the base of the pole or in a manhole, or buried directly in the ground.

G-E Novalux Ornamental Units

Form 9



No. 37 Diffusing

Eight-panel
Diffusing

For 400 C. P. Mazda Series Lamps

†Series Auto-transformer Type
For 6.6-amp., 60-cycle Series Circuits

Cat. No. of Complete Unit	Rating Amps.	Equipped with
176029	15	No. 37 Diffusing Globe and Metal Canopy
205961	15	" 37 " " " Glass " "
202259	15	8 panel " " " " "
205967	15	8 " " Stippled " "
202260	15	8 " " " " and Dome Refractor
205973	15	Rippled Globe No. 107 " Metal Canopy
205979	15	" " " 107, Dome Refractor and Metal Canopy

For 7.5-amp., 60-cycle Series Circuits

176030	15	No. 37 Diffusing Globe and Metal Canopy
205962	15	" 37 " " " Glass " "
202261	15	8 panel " " " " "
205968	15	8 " " Stippled " "
202262	15	8 " " " " and Dome Refractor
205974	15	Rippled Globe No. 107 " Metal Canopy
205980	15	" " " 107, Dome Refractor and Metal Canopy

†Multiple Auto-transformer Type

For 100 to 125-volt, 60-cycle Multiple Circuits

176032	15	No. 37 Diffusing Globe and Metal Canopy
205985	15	" 37 " " " Glass " "
205460	15	8-panel " " " " "
205988	15	8 " " Stippled " "
205463	15	8 " " " " and Dome Refractor
205991	15	Rippled Globe No. 107 " Metal Canopy
205994	15	" " " 107, Dome Refractor and Metal Canopy

For 600 C. P. Mazda Series Lamps

†Series Auto-transformer Type

For 6.6-amp., 60-cycle Series Circuits

176033	20	No. 37 Diffusing Globe and Metal Canopy
205963	20	" 37 " " " Glass " "
202263	20	8 panel " " " " "
205969	20	8 " " Stippled " "
202264	20	8 " " " " and Dome Refractor
205975	20	Rippled Globe No. 107 " Metal Canopy
205981	20	" " " 107, Dome Refractor and Metal Canopy

Metal Canopy

For 7.5-amp., 60-cycle Series Circuits

176034	20	No. 37 Diffusing Globe and Metal Canopy
205964	20	" 37 " " " Glass " "
202265	20	8 panel " " " " "
205970	20	8 " " Stippled " "
202266	20	8 " " " " and Dome Refractor
205976	20	Rippled Globe No. 107 " Metal Canopy
205982	20	" " " 107, Dome Refractor and Metal Canopy

Metal Canopy

A tap is provided in the auto-transformer for operating a 400-c. p. lamp.

Shipping weight of above units with diffusing globe, 110 pounds; with 8-panel diffusing globe, 200 pounds; with 8-panel stippled globe, 210 pounds.

*Cat. No. does not include Mazda lamp or pole.
†Special auto-transformers furnished at an increased price for A. C. series from 3 to 10 amperes, 25 to 133 cycles.



G-E Novalux Ornamental Units

Form 9

For 1000 C. P. Mazda Series Lamps

†Series Auto-transformer Type

For 6.6-amp., 60-cycle Series Circuits

*Cat. No. of Complete Unit	Rating Amps.	Equipped with
176036	20	No. 37 Diffusing Globe and Metal Canopy
205965	20	" 37 " " " Glass "
202267	20	8-panel " " " "
205971	20	8 " Stippled " " "
202268	20	8 " " " and Dome Refractor
205977	20	Rippled Globe No. 107 " Metal Canopy
205983	20	" " " 107, Dome Refractor and

Metal Canopy

For 7.5-amp., 60-cycle Series Circuits

176037	20	No. 37 Diffusing Globe and Metal Canopy
205966	20	" 37 " " " Glass "
202269	20	8-panel " " " "
205972	20	8 " Stippled " " "
202270	20	8 " " " and Dome Refractor
205978	20	Rippled Globe No. 107 " Metal Canopy
205984	20	" " " 107, Dome Refractor and

Metal Canopy

*Cat. No. does not include Mazda lamp or pole.
†Special auto-transformers can be furnished at an increased price for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles.

A tap is provided in the auto-transformer for operating a 600-c. p. lamp.

Approximate shipping weight of above units with diffusing globe, 110 pounds; with 8-panel diffusing globe, 200 pounds; with 8-panel stippled globe, 210 pounds.

Form 9, with Form E Casing for Series Circuits Straight Series Circuits

For 400 or 600 C. P. Lamps

*Cat. No. of Complete Unit	Equipped with
176031	No. 37 Diffusing Globe and Metal Canopy
205947	" 37 " " " Glass "
202251	8 panel " " " "
205949	8 " Stippled " " "
202252	8 " " " and Dome Refractor
205948	Rippled Globe No. 107 " Metal Canopy
205950	" " " 107, Dome Refractor and Metal

Canopy

†IL Series Transformer Type

For 400, 600 or 1000 C. P. Lamps

202253	No. 37 Diffusing Globe and Metal Canopy
205951	" 37 " " " Glass "
202254	8-panel " " " "
205952	8 " Stippled " " "
202255	8 " " " and Dome Refractor
205953	Rippled Globe No. 107 " Metal Canopy
205954	" " " 107, Dome Refractor and Metal

Canopy

For Straight Multiple Circuits

For 400 or 500-watt Lamps

176039	No. 37 Diffusing Globe and Metal Canopy
205955	" 37 " " " Glass "
202256	8-panel " " " "
205956	8 " Stippled " " "
202257	8 " " " and Dome Refractor
205957	Rippled Globe No. 107 " Metal Canopy
205958	" " " 107, Dome Refractor and Metal

Canopy

For 750 or 1000-watt Lamps

176040	No. 37 Diffusing Globe and Metal Canopy
205959	" 37 " " " Glass "
202258	8-panel " " " "
205960	8 " Stippled " " "

*Cat. No. does not include Mazda lamp or pole.

†For use with, but not including, a Type IL series transformer which should be mounted in the base of the pole or in a manhole, or buried directly in the ground.

Approximate shipping weight of above units with No. 37 diffusing globe, 100 pounds; with 8-panel diffusing globe, 190 pounds; with the 8-panel stippled globe, 200 pounds.

G-E Novalux Ornamental Units



Form 12



Form 13

Form 12, With Form M Casing
Straight Series Type
For 400 or 600 C. P. Lamps

*Cat. No. of Complete Unit	Equipped With	Approx. Shipping Wt., Lbs.
221591	No. 104 Globe and Glass Canopy No. 1104... †IL Series Transformer Type For 400, 600 or 1000 C. P. Lamps	140
221601	No. 104 Globe and Glass Canopy No. 1104... Series Auto-transformer Type For 400 C.P. Mazda Series Lamps For 6.6-ampere, 60-cycle Series Circuits	140
221628	No. 104 Globe and Glass Canopy No. 1104... For 7.5-ampere, 60-cycle Series Circuits	145
221638	No. 104 Globe and Glass Canopy No. 1104... For 600 C.P. Mazda Series Lamps For 6.6-ampere, 60-cycle Series Circuits	145
221648	No. 104 Globe and Glass Canopy No. 1104... For 7.5-ampere, 60-cycle Series Circuits	...
221658	No. 104 Globe and Glass Canopy No. 1104... †For 1000 C.P. Mazda Series Lamps For 6.6-ampere, 60-cycle Series Circuits	...
221668	No. 104 Globe and Glass Canopy No. 1104... For 7.5-ampere, 60-cycle Series Circuits	...
221678	No. 104 Globe and Glass Canopy No. 1104... Form 13, With Form J Casing Straight Series Type For 250, 400 or 600 C. P. Lamps	...

*Cat. No. of Complete Unit	Equipped With	Approx. Shipping Wt., Lbs.
221680	No. 92 Globe and Glass Canopy..... Straight Multiple Type For 300, 400 or 500-watt Lamps	88
221688	No. 92 Globe and Glass Canopy..... †IL Series Transformer Type For 400, 600 or 1000 C. P. Lamps	88

221684	No. 92 Globe and Glass Canopy.....	88
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*Catalogue Numbers and prices do not include Mazda lamp or pole.

†For use with, but not including a Type IL series transformer which should be mounted in the base of the pole or in a manhole, or buried directly in the ground.

†Special auto-transformers can be furnished at an increased price for any alternating-current series circuit from 3 to 10 amperes, 25 to 133 cycles.

A tap is provided in the auto-transformer for operating a 400-c.p. lamp.

A tap is provided in the auto-transformer for operating a 600-c.p. lamp.

NOTE.—The above units are for poles and brackets with 5-inch tops.



Holophane Prismatic Band Refractors

6 1/2-inch Diameter



Holophane prismatic band refractors with canopy and holder for 40, 60, 80 and 100 c. p. series, and 100 and 200-watt multiple lamps.

Cat. No.	Description
174273	Holophane Prismatic Refractor Complete
174271	Prismatic Glass Refractor Only
174272	Holder for Refractor Only

Prices upon application.

8 1/2-inch Diameter

Holophane prismatic band refractor with canopy and holder for 250 and 400 c. p. series, and 300, 400 and 500-watt multiple lamp.

Prices upon application.



Cat. No.	Description
174276	Holophane Prismatic Refractor Complete
174274	Prismatic Glass Refractor Only
174275	Holder for Refractor Only

G-E Novalux Sockets and Receptacles



Cat. No.	Description	Ship. Wt., Lbs. per 100	Price Each
25708	Porcelain Series Socket and Receptacle, complete, including iron yoke, Cat. No. 25714, for Use with Mogul Screw Base Lamps.	200	\$2.25
25711	Porcelain Series Socket Only, for Mogul Screw Base Lamps.	112	1.25
25713	Porcelain Receptacle with Clips Only.	54	.85
25714	Iron Yoke (1/8-inch—18 Thread) with two screws Cat. No. 10252.	50	.25
65951	Aluminum Disk Film Cutout. Tested for 110 Volts; probable Limit of Breakdown, 250 to 450 Volts.	1/4	.04
147969	Lead Disk Film Cutout. Tested for 70 Volts; Probable Limit of Breakdown, 70 to 250 Volts.	1/4	.05

With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts is included.

G-E Novalux Magazine Film Cutouts



For use with G-E series sockets on series incandescent circuits over 3 kw. For circuits controlled by constant current transformers under 3 kw. capacity use lead disk film cutout, Cat. No. 147969. Tested for 110 volts (probable limit of breakdown, 300 to 450 volts). It consists of a roll of special insulating ribbon contained in a capsule of such dimension that it can be mounted on the standard G-E series socket, Cat. No. 25711, without the use of any additional attachments. The insulating ribbon is 12 inches long and will provide at least 15 fresh dielectric surfaces. The capsules are non-refillable and should be replaced when the ribbon is exhausted. Shipped in standard packages of 100 only.

Cat. No.	Std. Pkg.	Shipping Weight Ounces, per 100	Price, Class V Each
224577	100	4	\$.35

No. 25720 G-E Novalux Porcelain Series Sockets

Shipping weight per 100 is 46 pounds.

Series sockets only, for medium screw base lamps. With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Price, No. 25720, Socket Only each \$.75



No. 177143 G-E Novalux Porcelain Receptacles

Shipping weight is 100 pounds per 100. With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Price, No. 177143 Receptacle with Clips each \$1.75



No. 159377 G-E Porcelain Multiple Sockets With 1/2-inch Pipe Tap

Shipping weight, 330 pounds per hundred.

With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Price, No. 159377 Porcelain Multiple Socket with 1/2-inch Pipe Tap, for Mogul Screw Base Lamps with Plunger Spring Center Contact each \$2.50



No. GE427 Porcelain Multiple Sockets

With Yoke for 1/2-inch Pipe

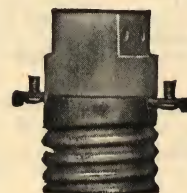
Shipping weight, 80 pounds per hundred.

With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Price, No. GE427 Porcelain Multiple Socket with Yoke for 1/2-inch Pipe, for Medium Screw Base Lamps each \$.54



No. 156722 G-E Novalux Skeleton Multiple Sockets



With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Shipping weight per 100 is 52 pounds.

Price, No. 156722, Multiple Socket for Mogul Screw Base Lamps each

No. 129804 G-E Novalux Porcelain Multiple Sockets

For Mogul Screw Base Lamps

Shipping weight per 100 is 112 pounds.

With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Price, No. 129804 each \$1.00



No. 129803 G-E Novalux Porcelain Multiple Sockets

For Medium Screw Base Lamps

Shipping weight per 100 is 112 pounds.

With each shipment of 12 or less of the series sockets, a package of 15 disk film cutouts, Cat. No. 65951, is included.

Price, No. 129803 each \$1.00





G-E Form M Pole Type Series Absolute Plug Cutouts



**Pole Type Series Absolute
Plug Cutout (External View)**



**Pole Type Series Absolute
Pole Cutout (Internal View)**

For use in the base of ornamental poles, on which are mounted lamps operating on series circuits. It is of the plug type and when the plug is removed all connection between lamp and line is absolutely opened.

Cat. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
156220	Plug Type	8	135	\$13.00

Globes for Ornamental Street Lighting



Plain



Double Fitter

Plain Ball Globes

Diam. Inches	Fitter Inches	Usual No. in Package	Approx. Wt. Lbs. per Pkg.	PRICE, PER DOZEN	
				Alba	Monax
10	4	4	20	\$24.10	\$24.10
10	5	4	20	24.10	24.10
10	6	4	20	24.10	24.10
12	6	1	9	37.10	37.10
14	6	1	11	55.00	55.00
14	7	1	11	55.00	55.00
14	8	1	11	55.00	55.00
16	6	1	16	78.80	78.80
16	8	1	16	78.80	78.80
18	8	1	40	127.60	127.60
18	10	1	40	127.60	127.60
20	8 1/4	1	60	178.20	.....

Double Fitter Ball Globes

Designed for use with Mazda C lamps.

Diam. Inches	FITTER, INCHES Bottom Top	Height Inches	Usual No. in Pkg.	Approx. Wt. Lbs. per Pkg.	PRICE, PER DOZEN	
					Alba	Monax
14	8 6	13 3/8	1	125	\$55.00	\$55.00
16	8 6	15 5/8	1	155	78.90	78.90

Pear Shape Globes



Designed for use with Mazda C lamps. Has top fitter to accommodate copper or black ventilator.

Alba

Diam. In.	FITTER, IN.	Bottom Top	Usual No. in Pkg.	Approx. Wt. Lbs. per Pkg.	Price	
					per Pkg.	per Doz.
14	8 6	1	10	76.45		
16	8 6	1	13	114.70		

Monax

14	8 6	1	10	\$76.45
16	8 6	1	13	114.70



No. 51

X-Ray Flood Lighting Projectors For Use with 250-Watt, G-30 Mazda C Flood Lighting Lamps

Weather-proof, ventilated, steel housing and heat resisting glass cover; lamp position adjustable from exterior. Swivel and tilting attachment. No. 800 reflector, regularly furnished, throws a concentrated beam. For wide spread beam, No. 810 will be furnished at same price. No. 53 includes long heavy stand mounting.

Cat. No.	SIZE, INCHES Diam. Depth	Wt., Lbs. Net. Ship.	Price Each
51	11 1/2 9 3/4	10 15	\$30.00
53	11 1/2 9 3/4	25 40	37.50

X-Ray Flood Lighting Projectors

For Use with 500-Watt, G-40 Mazda C Flood Lighting Lamps

The No. 60 projector consists of a weather-proof, well ventilated, cold galvanized and baked enamel steel housing, with wire glass cover; lamp adjustment device is operated from exterior; mogul porcelain-lined socket.

Unit is equipped with swivel and tilting device for bolting to supporting surfaces.

The No. 845 reflector gives a wide spread beam of light; No. 840 reflector produces a highly concentrated beam of light. No. 835 is regularly supplied with this unit unless otherwise specified and gives a 25-degree spread beam of light. This is a convenient size projector for average use.

This unit also supplied with heavy stand mounting as No. 62. Standard finish, gray.



No. 60

Cat. No.	SIZE OVER ALL, IN.		WEIGHT, LBS.		Price Each
	Diam.	Depth	Net	Ship.	
60	14	14	23	35	\$50.00
62	14	14	23	50	62.50

X-Ray Flood Lighting Projectors

For Use with 300-1000-Watt Mogul Base Mazda C Lamps PS Bulb

The X-Ray No. 91 mogul projector is substantially made of heavy steel and castings, finished in gray; weather-proof, well ventilated; light in weight; has porcelain socket with adjusting device and it is wired with a short cord. An adjustable base comes with this unit. Mogul No. 92, shallow barrel type, finished in gray. Furnished with adjustable stand support.

Mogul No. 91, similar to No. 92, but with swivel and tilting low base.

The X-Ray Reflector No. 825 of special parabolic design produces a 10-degree beam. No. 827 reflector, supplied in Nos. 91 or 92, when specified produces a 15-degree spread beam. Special diffusing lens, 2.50 extra.

Diam. over all, 18 1/2 inches, depth 13 inches.



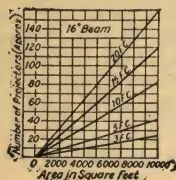
No. 92

Cat. No.	Spread of Base, In.	Wt., Lbs. Net	Ship.	Price Each
91	5	28	43	\$60.00
92	18	40	59	80.00

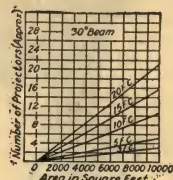


G-E Flood Lighting Projectors

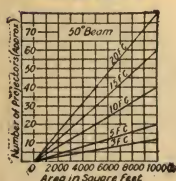
Illumination Data



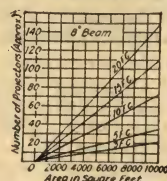
Form L3
500-watt
*25 to 75 Ft.



Form L15
1000-watt
*40 to 130 Ft.



Form L11
250-watt
*80 to 255 Ft.



Form L1
500-watt
*155 to 500 Ft.

There are three important factors to consider when solving a flood lighting problem.

FIRST.—The working distance, i. e., the approximate distance the projectors are to be installed from the surface to be illuminated, as this determines the type of flood lighting projector to use.

SECOND.—The character of surroundings, i. e., whether the area that is to be illuminated is located along a white way, residential section or park.

THIRD.—The color of building surface whether the surface to be lighted is dark, medium or light.

The second and third factors play a very important part in determining the foot candle intensity required for each problem.

The chart is so simple that it is practically self-explanatory but a brief example might assist the supply man by making it still clearer.

Assuming to be illuminated a light-colored building surface having an area of 8000 square feet located in a residential section. Local conditions are such that the flood lighting units are to be installed 25 feet away from the surface to be illuminated. What type of flood lighting unit, foot candle intensity and number of units will be required?

Obtain the three factors necessary to solve the problem. First, the working distance, 25 feet; second, area or surface to be in a residential section; third, the building surface is of light colored finish.

Refer to chart and find that for a working distance of 25 feet the Form L3 flood lighting projector will meet the requirement. By referring to the table of intensities in the same chart you will find that the intensity required for a light-colored surface or building in a residential section is 5 foot candles. Refer to the curves for the L3 projector showing the number of units required to illuminate various areas to intensities of 3, 5, 10, 15 and 20-foot candles. Following up the vertical line from 8000 square ft. until it crosses the 5 F. C. curve and then going horizontally to the left to find that it will require 16L3 lighting projectors.

Table of Intensities for Flood Lighting

Building Surface to be Illuminated	FOOT CANDLES REQUIRED		
	White Way Residence Section		
Dark Colored.....	20	15	10
Medium ".....	15	10	5
Light ".....	10	5	3

*Working distances in feet are given for convenience in selecting the proper flood lighting projector. Local conditions may necessitate a change in some cases.



Form L-1 G-E Flood Lighting Projectors

The projector has a polished metal reflector which is attached to a weather-proof cast iron casing and arranged to take a focus type Mazda lamp.

The best illumination is obtained from the 500-watt flood light lamp, although the 250-watt flood light lamp and a No. GE-070 adapter can be used.

Furnished with 16-inch parabolic aluminum reflector for 500-watt flood lighting lamp.

Cat. No.	Description	APPROX. WT., LBS.	
		Net	Ship.
166012	With Hinged Base.....	30	65
189962	" Swivel and Trunnion Base.....	40	100
195852	" " " Pipe Stand Base.....	45	120

Form L-3 G-E Flood Lighting Projectors

The reflector of this projector consists of sectional glass mirrors set at angles with each other and arranged to form three zones. Each section has a copper backing to protect the silvering. The reflector is mounted to a weather-proof cast iron casing.

The 500-watt and 250-watt flood lighting lamp can be used, although the best results are obtained by using the 500-watt lamp.

With Swivel and Trunnion Base

Cat. No.	APPROX. WT., LBS.	
	Net	Ship
195865	46	110

With Swivel and Pipe Stand Base

Cat. No.	APPROX. WT., LBS.	
	Net	Ship
195866	23	55



With Swivel and Trunnion Base

Form L-11 G-E Flood Lighting Projectors

This projector meets the demand for a small unit having a wide beam and which can be mounted close to the object to be illuminated. The reflector is made of heavy heat-resisting glass which is silver-plated. Over this silvering is a heavy deposit of copper which hermetically seals the silvering, protects the glass and assists in radiating the heat from the lamp.

With Swivel and Trunnion Base

Cat. No.	APPROX. WT., LBS.	
	Net	Ship.
197450	18	45

With Swivel and Pipe Stand Base

Cat. No.	APPROX. WT., LBS.	
	Net	Ship.
195867	23	55



With Swivel and Trunnion Base

Form L-15 G-E Flood Lighting Projectors

This projector has been designed for flood lighting large areas such as shipyards, railway yards and construction work.

The reflector is of special design made of heavy heat-resisting glass, silvered and coppered on the back, and mounted in a casing of metal.

The regular type 110 or 220-volt 300-1000-watt lamp can be used. The best results, however, are obtained from the 1000-watt lamp.

With Swivel and Trunnion Base

Cat. No.	APPROX. WT., LBS.	
	Net	Ship.
224810	45	110

With Swivel and Pipe Stand Base

Cat. No.	APPROX. WT., LBS.	
	Net	Ship.
224811	50	130



With Swivel and Trunnion Base



G-E Searchlight Projectors



These projectors are adapted to meet the severe requirements of marine service, in which the searchlight finds its widest application.

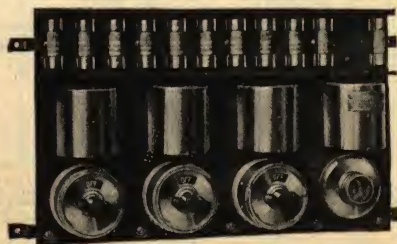
The standard commercial sizes are 9, 13, 18 and 24 inches in diameter, arranged for hand or pilot house control.

HAND CONTROL.—In the hand control projectors the beam of light can be trained vertically or horizontally by means of handles on the sides of the barrel, and a star wheel mounted on the trunnion acts as a locking device, by means of which the barrel of the projector may be held at any desired angle. This form of control is intended for use where the projector is located directly on the deck or within convenient reach of the operator.

PILOT HOUSE CONTROL.—Where the projector is installed on top of the pilot house, an arrangement for control from within is provided by which the beam can be moved either horizontally or vertically by a single lever within easy reach of the pilot. The projector may be locked at any desired angle by simply turning the handle of the lever until it binds against the quadrant.

SPECIAL FORMS OF CONTROL.—Projectors of 13 and 18 inches in diameter arranged for distant control, either by shaft, rope or electric motors, and also of 24, 30, 36, 60 and 80 inches in diameter arranged for hand and electric control are manufactured and can be supplied on special order.

Telltale Boards



These boards give instant warning when any lamp is extinguished by any means. They are made up to take care of from one to eight running lights. When a light fails, a lamp on the telltale board is illuminated, a buzzer rings and an indicator corresponding to the particular light indicates which light is out.

Most running lights now contain two lamps, one being a spare. Switches are provided for connecting the second lamp if the first fails. Thus the throwing of a switch into the second position brings the spare lamp into service.

Prices upon application.

G-E Series Panels for Incandescent Systems

*2200 Volts, 25 to 140 Cycles

Standard panels are blue Vermont marble, 1¼ inches thick mounted on a self-supporting frame-work of 1-inch pipe, 64 inches high. The primary switches are of the tubular expulsion fuse type and the secondary switch of the plug type. All instruments and meters have the standard dull black finish and the supporting frame work a black Japan finish.

For the Control of One, Two or Three Single Secondary Transformers with One Lamp per Transformer

Cat. No.	Trans. †Kw.	Secondary Amperes	No. of Trans. Controlled	Ship. Wt. Lbs.
154586	3	6.6 and 7.5	1	300
154622	3	6.6 " 7.5	2	375
154630	3	6.6 " 7.5	3	475
154587	5	6.6 " 7.5	1	300
154623	5	6.6 " 7.5	2	375
154631	5	6.6 " 7.5	3	475
154589	10	6.6 " 7.5	1	300
154625	10	6.6 " 7.5	2	375
154633	10	6.6 " 7.5	3	475
154591	15	6.6 " 7.5	1	300
154627	15	6.6 " 7.5	2	375
154635	15	6.6 " 7.5	3	475
154592	20	6.6 " 7.5	1	350
154628	20	6.6 " 7.5	2	425
154636	20	6.6 " 7.5	3	550
154593	25	6.6 " 7.5	1	350
154629	25	6.6 " 7.5	2	425
154637	25	6.6 " 7.5	3	550
154594	30	6.6 " 7.5	1	325
154595	35-40	6.6 " 7.5	1	325
154596	50	6.6 " 7.5	1	325
154597	60	6.6 " 7.5	1	325
154598	70	6.6 " 7.5	1	325
154599	80	6.6 " 7.5	1	325

Single Circuit Panel

For the Control of One Single Secondary Transformer with Two Lamp Circuits

Cat. No.	Trans. *Kw.	Secondary Amperes	No. of Trans. Controlled	Ship. Wt., Lbs.
154604	3	6.6 and 7.5	1	350
154605	5	6.6 " 7.5	1	350
154607	10	6.6 " 7.5	1	350
154609	15	6.6 " 7.5	1	350
154610	20	6.6 " 7.5	1	350
154611	25	6.6 " 7.5	1	350
154612	30	6.6 " 7.5	1	325
154613	35-40	6.6 " 7.5	1	325
154614	50	6.6 " 7.5	1	325
154615	60	6.6 " 7.5	1	325
154616	70	6.6 " 7.5	1	325
154617	80	6.6 " 7.5	1	325

*With slight modifications the panels may be used for 1100 volts, without additional charge.

Sub-base with Watthour Meter

		For One-circuit Panel			For Two-circuit Panel	
Trans. †Kw.	Primary Volts	Ampere Cap. Current Transformer	Cat. No.	Ship. Wt., Lbs.	Cat. No.	Ship. Wt., Lbs.
3	2200	5	152108	225	152114	250
5	2200	5	152108	225	152114	250
10	2200	10	152109	225	152115	250
15	2200	10	152109	225	152115	250
20	2200	15	152110	225	152116	325
25	2200	15	152110	225	152116	325
30	2200	20	152111	225	152117	325
35-40	2200	20	152111	225	152117	325
50	2200	30	152112	325	152118	250
60	2200	30	152112	325	152118	250
70	2200	40	152113	325	152119	250
80	2200	40	152113	325	152119	250

Designed for 60 cycles only, but can be furnished for other frequencies.

†Kilowatt output at unity power factor.

Prices quoted on application.



Type RV G-E Series Constant Current Transformers

60 Cycles, 2300 Volts



Alternating current is generally supplied at constant potential but when lamps or other apparatus requiring constant current are used it is necessary to provide some means for transforming from constant voltage to constant current. This change must be made in the most efficient manner and is accomplished with the G-E Constant Current Transformer.

These transformers are guaranteed to regulate from full load to no load and to maintain the current constant within one per cent above or below the normal current rating for which they were designed. This is an essential feature because in a series lighting system any excessive variation in current will cause the lamps to burn out.

The Kw. output is at unity power factor load.

In order to compensate for ohmic and reactive losses in the load circuit and fluctuations of voltage and frequency in the supply circuit all transformers of this type have 10 per cent additional load carrying capacity above rated KW output rating.

All transformers have single circuit secondaries but the 40, 50, 60 and 70 kw. size may be operated multi-circuit.

Prices of constant current transformers for other commercial voltages, frequencies or secondary currents will be quoted upon application.

Cat. No.	Kw. Output	WEIGHT, POUNDS	Net	Ship.
197089	5	300	500	
197091	10	475	650	
197093	15	650	850	
197095	20	800	1000	
197097	25	1050	1450	
197099	30	1250	1600	
†247080	35	1300	1650	
†230125	40	1350	1700	
†230127	50	1550	1900	
†230129	60	1800	2200	
†230131	70	2100	2550	

Kw.	DIMENSIONS, INCHES		
	A	B	C
5	34	17	23
10	37	20	25
15	40	23	28
20	44	25	30
25	48	27	34
30	53	28	38
35	55	30	42
40	55	30	42
50	57	31	43
60	59	34	45
70	63	36	47

†Built with multi-circuit secondary but can be operated as single circuit if desired.

Prices quoted upon application.

Type RO, Pole Type G-E Constant Current Transformers

For A. C. 6.6 Amperes Series Lighting Circuits
2300 Volts—60 Cycles



Type RO constant current transformers have been designed for controlling certain classes of street lighting where it is desirable to mount the transformer on a pole and operate it with an oil time switch.

It is entirely automatic in operation, is submerged in oil, mounted in a weather-proof tank, and requires no care or attention after it has been properly installed.

Series street lighting systems require constant current and constant current transformers have always required a substation with control panels and an attendant. On that account, it has been difficult to provide street lighting for

smaller towns and villages. Type RO transformer has been designed for this service. It is positive in action and does not require a substation or an attendant and it can be controlled by an oil time switch.

Cat. †No.	Kw. Output	Primary Amperes	Secondary Load Volts	Oil †Gal.	APPROX. WT., LBS.	
					Net Incl. Oil	Ship.
246268	1.0	0.68	152	22	425	625
246269	2.0	1.34	303	25	475	675
246270	3.0	1.99	455	25	500	700
246271	5.0	3.31	758	30	600	800
246272	7.5	4.94	1136	40	750	950
246273	10.0	6.55	1515	40	775	975
257347	15.0	9.65	2270	60	1060	1300
257348	20.0	12.95	3030	60	1100	1400
257349	25.0	15.08	3790	110	1850	2100
257350	30.0	18.15	4550	110	2000	2300

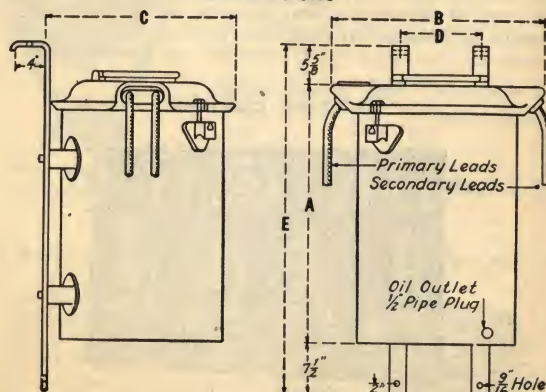
The 2300-volt tap is good for 2400-volt circuits. An extra tap is provided to allow for operation on circuits down to 2000 volts.

†G-E No. 21 oil is regularly supplied and included in the price. If transformers are to be operated where the temperature does not fall below freezing No. 12 transil oil may be used.

†Transformers with 7.5 ampere secondaries can be supplied at same prices as for the 6.6 ampere sizes.

Suspension hooks are furnished with all Type RO Transformers. But where the weight exceeds 1000 pounds the transformers should be mounted on a platform.

Dimensions



Cat. No.	DIMENSIONS, INCHES				
	A	B	C	D	E
246268	31	24 3/8	19 1/4	8 3/4	43 1/4
246269	32	25 1/8	20 1/8	9 1/2	43 1/4
246270	32	25 7/8	20 1/8	9 1/2	43 1/4
246271	33	27 1/8	22 3/8	10 1/2	43 1/4
246272	34	29 7/8	24 3/4	11 1/2	48 1/2
246273	34	29 7/8	24 3/4	11 1/2	48 1/2
257347	38 1/8	33 7/8	28 1/8	13 1/2	57 1/2
257348	38 1/8	33 7/8	28 1/8	13 1/2	57 1/2
257349	47 1/8	33 1/8	32 7/8	15 1/2	57 1/2
257350	47 1/8	33 1/8	32 7/8	15 1/2	57 1/2

Prices quoted upon application.



G-E Type SL Series Transformers

For Operating 6.6 and 7.5 Ampere Series Lamps
On A. C. 60 Cycle Constant Current Circuits

Pole Type

Cat. No.	*Kw. Output	AMPERES Primary	AMPERES Second.	Cat. No.	*Kw. Output	AMPERES Primary	AMPERES Second.
†195588	0.04	6.6	6.6	†195599	0.10	7.5	7.5
†195589	0.10	6.6	6.6	247021	0.25	7.5	7.5
247012	0.25	6.6	6.6	247022	0.50	7.5	7.5
247013	0.50	6.6	6.6	247023	1.00	7.5	7.5
247014	1.00	6.6	6.6	247024	2.00	7.5	7.5
247015	2.00	6.6	6.6	247025	3.00	7.5	7.5
247016	3.00	6.6	6.6	247026	4.00	7.5	7.5
247017	4.00	6.6	6.6	247027	5.00	7.5	7.5
247018	5.00	6.6	6.6	247028	7.50	7.5	7.5
247019	7.50	6.6	6.6	247029	10.00	7.5	7.5
247020	10.00	6.6	6.6	.....	.....	.....	.....

Subway Type

Cat. No.	*Kw. Output	AMPERES Primary	AMPERES Second.	Cat. No.	*Kw. Output	AMPERES Primary	AMPERES Second.
†195608	0.04	6.6	6.6	†195619	0.10	7.5	7.5
†195609	0.10	6.6	6.6	†224349	0.25	7.5	7.5
†224345	0.25	6.6	6.6	†224350	0.50	7.5	7.5
†224346	0.50	6.6	6.6	†224351	1.00	7.5	7.5
†224347	1.00	6.6	6.6	†224352	2.00	7.5	7.5
†224348	2.00	6.6	6.6	†245954	3.00	7.5	7.5
†245953	3.00	6.6	6.6	†247034	4.00	7.5	7.5
†247030	4.00	6.6	6.6	247035	5.00	7.5	7.5
247031	5.00	6.6	6.6	247036	7.50	7.5	7.5
247032	7.50	6.6	6.6	247037	10.00	7.5	7.5
247033	10.00	6.6	6.6	.....	.....	.....	.....

Weights, Etc.

Pole Type				Subway Type			
Kw.	Tank Symbol	Oil No. Gals.	APPROX. Wt., Lbs. Net Ship.	Kw.	Tank Symbol	Oil No. Gals.	APPROX. Wt., Lbs. Net Ship.
3	.....	.....	100 120	3	.....	.....	100 120
4	.....	.....	137 160	4	.....	.....	137 160
5	CP-015	5½	281 290	5	CP-117½	13¾	500 500
7½	CP-017	8½	390 400	7½	CP-117½	12¾	540 540
10	CP-019	11	450 470	10	CP-117½	11¾	570 570

*At unity power factor load. †No protective device required. ‡Protective device assembled in cap of transformer.

**Protective Devices for Type SL Series Transformers

Pole Type				Subway Type			
Cat. No.	Trans. Kw. Output	Sec. Amps.		Cat. No.	Trans. Kw. Output	Sec. Amps.	
247063	0.25	6.6		247065	3	7.5	
247063	0.25	7.5		247066	4	6.6	
247063	0.50	6.6		247066	4	7.5	
247063	0.50	7.5		247066	5	6.6	
247064	1	6.6		247066	5	7.5	
247064	1	7.5		247067	7.5	6.6	
247065	2	6.6		247067	7.5	7.5	
247065	2	7.5		247068	10	6.6	
247065	3	6.6		247068	10	7.5	
§Subway Type				247070	7.5	7.5	
247069	5	6.6		247071	10	6.6	
247069	5	7.5		247071	10	7.5	
247070	7.5	6.6					

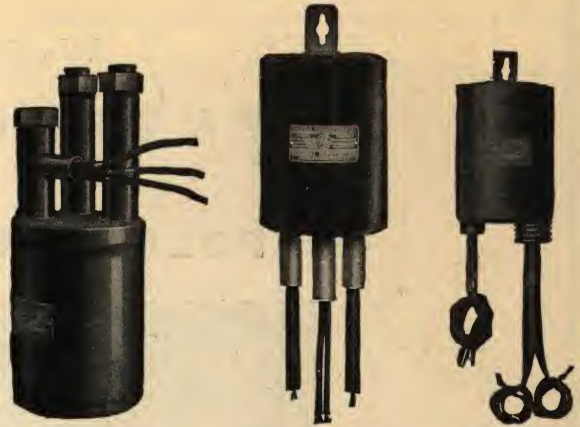
Film Cutouts for Type SL Series Transformers

Cat. No.	Trans. Kw. Output	Sec. Amps.	Ship. Wt., Lbs. per 100	Cat. No.	Trans. Kw. Output	Sec. Amps.	Ship. Wt., Lbs. per 100
147969	0.25	6.6	¼	198678	3	7.5	3
147969	0.25	7.5	¼	198679	4	6.6	3
147969	0.50	6.6	¼	198679	4	7.5	3
147969	0.50	7.5	¼	198679	5	6.6	3
65951	1	6.6	3	198679	5	7.5	3
65951	1	7.5	3	198680	7.5	6.6	3
198678	2	6.6	3	198680	7.5	7.5	3
198678	2	7.5	3	198681	10	6.6	3
198678	3	6.6	3	198681	10	7.5	3

**One film cut-out included. §On subway type transformers of 0.25 to 4 kw. capacity, protective device is assembled in cap of transformer.

Type IL G-E Series Transformers

For Operating 6.6, 15 and 20-ampere Mazda Series Lamps on A. C. Constant Current Circuits 60 Cycles



Ornamental Post Type

Ornamental Post or Subway Type

Aerial Type

These series transformers allow the use of high efficiency series lamps where high potential is impracticable.

No film cutout is required since each lamp is independent of the others in the circuit. In case of an accident to one or more, the remainder of the lamps on the circuit burn without interruption.

They protect the lamps from surges in the line.

They are a valuable adjunct to "Safety First" in ornamental street lighting, because they insulate the pole and lamp from the high tension series circuit and permit the use of high efficiency series lamps in business districts where ordinances prohibit high tension wires above the street surface.

For use with pendent units, the transformers can be mounted on the cross arms of the poles.

They save the expense of high-voltage conductors, heavy insulation and high tension cutouts.

When lamp wattage varies between 8 per cent above and 20 per cent below normal, secondary current will not vary more than 1.0 per cent with normal primary current and frequency.

Ornamental Post Type with Detachable Couplings

Mfrs. No.	LAMP RATING †C-p.	Amps.	Open Circuit Effective ‡Voltage	APPROX. Wt., Lbs. Net	Ship.
245679	100/250	6.6	85	20	30
258679	250/400	6.6/15	110	27	62
235825	400/600	15/20	72	27	62
235824	600/1000	20	117	37	70
245678	1000/11500	20	170	45	80

Ornamental Post or Subway Type with Wiping Sleeves

Mfrs. No.	LAMP RATING †C-p.	Amps.	Open Circuit Effective ‡Voltage	APPROX. Wt., Lbs. Net	Ship.
245677	100/250	6.6	85	15	25
258678	250/400	6.6/15	110	27	62
235823	400/600	15/20	72	27	62
235822	600/1000	20	117	37	70
245676	1000/1500	20	170	45	80

Aerial Type with Porcelain Bushings and Long Leads

Mfrs. No.	LAMP RATING †C-p.	Amps.	Open Circuit Effective ‡Voltage	APPROX. Wt., Lbs. Net	Ship.
245675	100/250	6.6	85	15	25
258677	250/400	6.6/15	110	27	62
235821	400/600	15/20	72	27	62
235820	600/1000	20	117	37	70
245674	1000/1500	20	170	45	80

*Special transformers can be furnished for any commercial circuit or c-p. lamps. Prices on application.

†The 100/250 c-p. transformers are 1:1 ratio and two secondary leads supply 6.6 ampere for the 100 or 250 c-p. lamps.

The 250/400 c-p. transformers have three secondary leads supplying 6.6 amperes for the 250 c-p. lamps and 15 amperes for the 400 c-p. lamps. The 400/600 c-p. sizes also have three leads which furnish 15 amperes for the 400 c-p. lamp and 20 amperes for the 600 c-p. The 600/1000 c-p. and 1000/1500 c-p. have only two secondary leads as the current required for the 600 c-p. and the 1000 c-p. as well as on the 1500 c-p. is the same.

‡The maximum voltage which can be obtained by means of a voltmeter.

Prices quoted upon application.

We Specialize on

CENTRAL STATION

and

POLE LINE EQUIPMENT



A CORNER OF ONE OF OUR CROSS-ARM STOREROOMS
Three to ten carloads in stock at all times

In our warehouses we maintain at all times the largest and most complete stock of dependable construction materials to be found anywhere in New England.

Each and every line we carry is sold with the guarantee of the manufacturers—pioneers in their respective fields—who have been in business continuously for many years building success upon the merit of their goods.

We are prepared to take proper care of installations of any size. Our staff of Central Station specialists is always ready to give the fullest degree of co-operation to our customers.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"



**Western Red Cedar Poles****W. R. C. A. Specifications Covering
Western Red Cedar Poles
4-inch, 20-foot and Larger**

1. **LIVE TIMBER.**—All poles must be manufactured from live growing cedar timber.
2. **MANUFACTURE.**—All poles must be peeled, knots trimmed close and butts and tops sawed square.
3. **VARIATION IN LENGTH.**—Poles may be 6 inches longer or 3 inches shorter than length specified.
4. **KNOTS.**—Knots are not a defect, if sound, trimmed smoothly and do not plainly impair strength of pole.
5. **DISCOLORATION.**—Discoloration is not a defect.
6. **MISCELLANEOUS.**—No poles shall contain sap rot, wood-pecker holes, plugged holes or evidence of having been eaten by ants.
7. **ROT.**—Tops of poles must be free from rot. Butt rot in center, including small ring rot, shall not exceed 10 per cent of the area of the butt. Butt rot of a character which impairs the strength of the pole above the ground line is a defect.
8. **CAT FACES.**—Sound cat faces are not a defect if no part of cat face shows on upper one-fifth of pole or within two feet above or one foot below ground line.
9. **DEAD OR DRY STREAKS.**—A sound dead or dry streak is not a defect if it does not cover more than 25 per cent of the surface of pole at any one point.
10. **MINIMUM MEASUREMENTS.**—(a) Tops of all poles shall have a minimum circumference measurement as shown in Table No. 1. (b) Extreme butt of all poles shall have a minimum measurement as shown in Table No. 2. (c) Poles having a decided swell at butt shall have a sufficiently larger measurement at butt to insure a reasonable measurement at ground line.
11. **SHORT KINKS.**—Short kinks are not permitted.
12. **REVERSE SWEEP.**—Reverse and two way sweep, meaning a sweep in two planes, is permitted, provided a straight line drawn from center of pole at top to center of pole at ground line does not leave pole at any point.
13. **ONE WAY SWEEP.**—One way sweep is permitted, provided it does not exceed maximum shown in Table No. 3.
14. **METHOD OF MEASURING SWEEP.**—That part of pole below ground line not to be taken into consideration. Tightly stretch a tape from point at ground line on side of pole where sweep is greatest to upper surface at top of pole and having so done measure widest point from tape to surface of pole and if, for illustration upon a 30-foot pole the widest point does not exceed 4 inches, this pole shall be accepted.
15. **EXPLANATION OF TERM: GROUND LINE.**—The term ground line used to denote a point on pole a distance of 4 feet on 20-foot, 5 feet on 25 and 30-foot and 6 feet on 35-foot and longer poles from extreme butt.

**Table No. 1 Minimum Top Measurement
For Western Red Cedar Poles**

Top Designation Inches	Circum. Inches	Top Designation Inches	Circum. Inches	Top Designation Inches	Circum. Inches
4	12	7	22	10	31
5	15	8	25	..	..
6	18½	9	28	..	..

Table No. 2

Poles 35 ft. and longer shall have minimum circumference measurement at extreme butt as follows:

Length Feet	7	8	9	10	Length Feet	7	8	9	10
35	33	36	39	42	65	..	45	48	51
40	34	37	40	44	70	..	47	50	53
45	..	39	42	45	75	..	48	51	54
50	..	41	44	47	80	..	50	53	56
55	..	42	45	48	85	..	51	54	57
60	..	44	47	50	90	..	52	55	58

Table No. 3

Length Poles Feet	Max. Sweep Bet. Top and Ground Line Inches	Length Poles Feet	Max. Sweep Bet. Top and Ground Line Inches	Length Poles Feet	Max. Sweep Bet. Top and Ground Line Inches
20	3	45	6	70	10½
25	3	50	7	75	11
30	4	55	8	80	12
35	5	60	9	85	13
40	5½	65	10	90	14

Cedar Poles**N.W.C.A. Specifications Covering Northern
White Cedar Poles**

Standard Telephone, Telegraph, Electric Light and Street
Railway Poles

**Standard Specifications**

Sizes, 4-inch, 20-foot and Upwards

These poles must be cut from live growing timber, peeled and reasonably well proportioned for their length. Tops must be reasonably sound, must measure in circumference as follows: Seasoned 4-inch poles, 12 inches, 5-inch poles, 15 inches; 6-inch poles, 18½ inches; 7-inch poles, 22 inches. If poles are green, fresh cut or water-soaked, then 4-inch poles must measure 12½ inches; 5-inch poles, 16 inches; 6-inch poles, 19½ inches; 7-inch poles, 22¾ inches in circumference at top end. Lengths may be ½-inch scant for each 5 feet in length and 6 inches long for any length from 20 feet up.

One-way sweep allowable, not exceeding one inch for every five feet. Butt rot in the center including small ring rot outside of the center; total rot must not exceed 10 per cent of the area of the butt. Butt rot of a character which plainly seriously impairs the strength of the pole above ground is a defect. Wind twist is not a defect unless very unsightly and exaggerated. Rough, large knots, if sound and trimmed smooth, are not a defect.

Top Inches	Length Feet	Std. Wt. Lbs., Each	Top In.	Length Feet	Std. Wt. Lbs., Each	Top In.	Length Feet	Std. Wt. Lbs., Each
4	20	100	7	30	450	6	50	1150
5	20	130	8	30	600	7	50	1350
6	20	190	6	35	450	8	50	1700
7	20	250	7	35	600	6	55	1300
8	20	350	8	35	850	7	55	1700
4	25	150	6	40	625	8	55	2200
5	25	200	7	40	850	7	60	2200
6	25	250	8	40	1100	8	60	2500
7	25	350	6	45	900	7	65	2500
8	25	450	7	45	1100	8	65	3000
5	30	275	8	45	1350	7	70	3000
6	30	350	..	..	..	..	..	..

Chestnut Pole Specifications

The present N. E. L. A. specifications are: Class B 30-foot length calls for a 36-inch butt and 2-inch rise every time five feet is added to the length. These are the specifications we think almost all companies are adopting.

Class A 30's call for 38-inch butt and 2-inch rise up to 50 feet and then 3-inch rise every five feet. All Class A tops are 24 inches.

Class AA calls for a 30 with 40-inch butt and 2-inch rise up to 45 feet and then 3-inch rise every five feet. All Class AA tops are 26 inches.

Class AAA 30's call for 41-inch butt and 3-inch rise every five feet. All Class AAA tops are 28 inches.

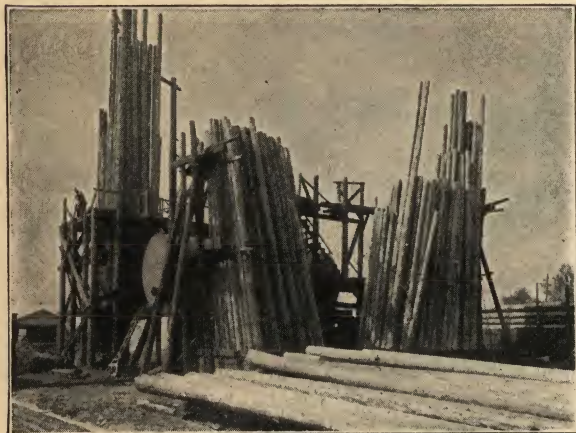


Specifications for Butt-treating Cedar Poles in Open Tanks

Adopted by Western Red Cedar Association April 25, 1921

Guaranteed Penetration Treatment

Provides for a Bath in Creosote and a Guarantee of Either $\frac{3}{8}$ -inch or $\frac{1}{2}$ -inch Penetration



Minneapolis Treating Tank No. 1

I. PRESERVATIVE.—The preservative is to be that known as Creosote, which must conform to the analysis requirements of these specifications. The temperature of the preservative shall not exceed 230 degrees F. during the period of treatment.

II. PRESERVATION.—The treated section of a pole shall include its entire surface below a plane whose distance from its butt shall not be less than that shown for the length of the pole as shown under Table 2.

III. GUARANTEED PENETRATION TREATMENT.—A. The portion of the pole's surface within a distance of one foot above and two feet below the ground line shall be punctured to facilitate the entrance of the preservative.

B. The depth of penetration in the punctured section of any pole shall not be less than three-eighths ($\frac{3}{8}$) inch when the thickness of the sapwood is three-eighths ($\frac{3}{8}$) inch or more. When the thickness of the sapwood is less than three-eighths ($\frac{3}{8}$) inch the depth of penetration shall not be less than the thickness of the sapwood.

Treatment B

Provides for a Continuous Submersion in Alternately Hot and Cold Creosote for a Minimum Duration of Six Hours

CONDITION AND PREPARATION OF POLES FOR BUTT TREATMENT.—Poles shall be seasoned at least four seasoning months before treatment. (See Seasoning Calendar.) All fibrous inner bark and foreign substances must be thoroughly removed from that portion of the pole between the points one foot above, and two feet below the ground line.

METHOD AND DURATION OF TREATMENT.—The poles shall be placed in upright tanks with the butts fully and continuously submerged in the preservative, to the height as shown in Table 2. The duration of treatment shall be divided between a hot and cold bath. The poles shall remain in the hot bath for a minimum of four continuous hours, after which they shall be subjected to the cold bath in which they shall remain for a minimum of two hours. (See Note.)

PRESERVATIVE.—The preservative is to be that known as Creosote, which must conform to the analysis requirements of these specifications.

Specifications for Butt-treating Cedar Poles in Open Tanks

Adopted by Western Red Cedar Association, April 25, 1921

Treatment B

Continued

TEMPERATURE OF THE PRESERVATIVE.—The preservative constituting the hot bath shall be heated to a temperature of 212 deg. F. at least once every four hours and shall not be allowed to fall below 180 deg. F. or reach above 230 deg. F. The temperature of the preservative constituting the cold bath shall not exceed 112 deg. F. at the conclusion of the treatment.

NOTE.—Experience has shown that due to the variance in the density of the sapwood, some poles will not take a penetration as readily as others. If necessary, therefore, the duration of treatment shall be extended.

Treatment AA

Provides for a Continuous Submersion in Hot Creosote for a Minimum Duration of Fifteen Minutes



Minneapolis Treating Tank No. 2

CONDITION AND PREPARATION OF POLES FOR BUTT TREATMENT.—Poles shall be seasoned at least four seasoning months before treatment. (See Seasoning Calendar.) All fibrous inner bark and foreign substances must be thoroughly removed from that portion of the pole between the points one foot above, and two feet below the ground line.

METHOD AND DURATION OF TREATMENT.—The poles shall then be placed in an upright tank with the butts fully and continuously submerged in the preservative, to the height as shown in Table 2, for not less than fifteen minutes when the atmospheric temperature is 70 deg. F. or higher and a proportionately longer time when the temperature is below that point; that is, during the colder weather the time of immersion must be sufficiently longer to result in the wood becoming as thoroughly heated as it would be under a fifteen minute treatment when the atmospheric temperature is 70 deg. F. or higher.

PRESERVATIVE.—The preservative is to be known as Creosote which must conform to the analysis requirements of these specifications.

TEMPERATURE OF THE PRESERVATIVE.—The preservative shall be heated to a temperature of 215 deg. F., and shall not be allowed to fall below 180 deg. F. or reach above 230 deg. F.

Treatment A

Provides for a Continuous Submersion in Hot Carbolineum for a Minimum Duration of Fifteen Minutes

Specifications for this treatment same as treatment "AA" except that the preservative used will be that known as Carbolineum, which must conform to the analysis requirements of these specifications.



Specifications for Butt-treating Cedar Poles in Open Tanks

Adopted by Western Red Cedar Association April 25, 1921

Required Analysis of Carbolineum

DERIVATION OF CARBOLINEUM.—The Carbolineum shall consist of the higher boiling fractions of pure coal tar and must not contain any admixture of any other tar oil or residue obtained from petroleum or any other source.

SPECIFIC GRAVITY.—The specific gravity of the oil compared with water at 15.5 deg. C. shall not be more than 1.135 nor less than 1.09 at 38 deg. C.

FLASHING POINT.—The flashing point shall not, in general, be below 140 deg. C.

BURNING POINT.—The burning point shall not, in general, be below 170 deg. C.

FRACTIONAL DISTILLATION.—The amount of distillate coming over at 300 deg. C. shall not exceed 15% of which not to exceed 2% shall distill below 235 deg. C.

TAR ACID CONTENT.—The tar acid in the distillate coming over below 300 deg. C. shall not exceed 2% by volume of entire sample.

SULPHONATION TEST FOR IMPURITIES.—A sulphonation test of the fraction between 300 deg. C. and 360 deg. C. should yield in residue not more than one-tenth of 1% by volume of entire sample.

INSOLUBLE RESIDUE.—The percentage of residue insoluble in benzol shall not exceed .25 of 1% by weight.

Required Analysis of Creosote

DERIVATION OF CREOSOTE.—The Creosote shall be a coal tar distillate obtained entirely from coal gas or coke-oven tar and must not contain any admixture of any other tar, oil or residue obtained from petroleum or any other source, including coal-gas tar or coke-oven tar. The oil must be completely liquid at 38 deg. C., and shall be free from suspended matter.

SPECIFIC GRAVITY.—The specific gravity of the oil shall not be more than 1.08 or less than 1.03 at 38 deg. C.

WATER CONTENT.—The oil shall not contain more than 3% of water.

FRACTIONAL DISTILLATION.—Up to 200 deg. C. the water-free oil shall render no distillate whatever.

Up to 210 deg. C. the amount of distillate shall not exceed 5%.

Up to 235 deg. C. the amount of distillate shall not exceed 25%.

At 355 deg. C. the residue if it exceeds 5% in quantity shall be soft.

TAR ACID CONTENT.—The tar acids in the distillate coming over below 300 deg. C. shall not exceed 8% by volume of the entire sample.

Seasoning Calendar

Poles that have been properly piled for seasoning for a period of four seasoning months, shall be considered seasoned. In arriving at a seasoning month, the calendar months shall be rated as follows:

January	equals	$\frac{1}{8}$	Seasoning Month
February	equals	$\frac{1}{8}$	Seasoning Month
March	equals	$\frac{1}{4}$	Seasoning Month
April	equals	$\frac{1}{2}$	Seasoning Month
May	equals	$\frac{3}{4}$	Seasoning Month
June	equals	1	Seasoning Month
July	equals	1	Seasoning Month
August	equals	1	Seasoning Month
September	equals	1	Seasoning Month
October	equals	$\frac{3}{4}$	Seasoning Month
November	equals	$\frac{5}{8}$	Seasoning Month
December	equals	$\frac{7}{8}$	Seasoning Month

Table No. 2

Ground Line and Minimum Length of Treated Section

Length of Pole Feet	Distance of Ground Line Above Butt, Feet	Minimum Length of Treated Section, Meas- ured from Butt of Pole Feet
20 or Less	4	5 $\frac{1}{2}$
25	5	6
30	5 $\frac{1}{2}$	6 $\frac{1}{2}$
35	6	7
40	6	7
45	6 $\frac{1}{2}$	7 $\frac{1}{2}$
50	7	8
55	7 $\frac{1}{2}$	8 $\frac{1}{2}$
60	8	9
65	8 $\frac{1}{2}$	9 $\frac{1}{2}$
70	9	10

Exemplar Locust Pins



Made of Thoroughly Seasoned
Young, Second Growth,
Straight-grained Locust

As a result of a multitude of experiences, many of them unfortunate and exacting tests extending over a considerable period of time, it has become a universally recognized fact that the only material which satisfactorily meets the requirements of insulator pins is locust wood.

Locust wood permits the manufacture of a pin that presents a hard, smooth surface to the elements. Only locust has the strength sufficient to withstand so great a strain on so small a piece of wood. Only locust has the durability to resist decay, the most important factor in decreasing the expense of line repairs and renewals.

But merely locust is not enough. Even genuine locust pins found in the market, bear traces of the far-reaching ravages of the bore, beetle and the doze, fungus. To meet the demand for a perfect pin, Exemplar Locust Pins are made only from sound, straight-grained portions of buttlogs, which usually represent not more than one-fifth of the entire butt. The result is a sound, well-made pin, straight-grained, free from knots, doze and bore, unquestionably the best pin that can be made.

Free from Splits and Knots
or Checks

Guaranteed Perfect

Cat. No.	Size In.	Wt., Lbs. per 1000	Price per 1000
1760	1 $\frac{1}{4}$ x 8	325	\$42.00
1761	1 $\frac{1}{2}$ x 9	450	60.00
1762	1 $\frac{1}{2}$ x12-1	600	120.00
1763	1 $\frac{1}{2}$ x12-1 $\frac{3}{8}$ " Top	650	130.00
1764	1 $\frac{3}{4}$ x12-1	1200	200.00
1765	1 $\frac{3}{4}$ x12-1 $\frac{3}{8}$ " "	1300	220.00



Exemplar Cross-arms

Long-leaf Yellow Pine (*Pinus Palustris*)—85% to 100% Heart

Guaranteed 85% Heart at Any Cross Section



These Arms Can Be Furnished Unpinned and Unpainted
or—Pinned and Painted



The following sizes are carried in stock. The $3\frac{1}{4} \times 4\frac{1}{4}$ -inch bored for $\frac{5}{8}$ -inch through bolt and two brace holes for $\frac{3}{4}$ -inch carriage bolts. The $3\frac{3}{4} \times 4\frac{3}{4}$ -inch bored for $\frac{3}{4}$ -inch through bolts and two brace holes for $\frac{3}{8}$ -inch carriage bolts.

Length of Arm Feet	No. of Pins	Size of Pin Inches	PIN SPACING, INCHES		
			End	Center	Side
3	2	$1\frac{1}{2}$	4	28	..
4	4	$1\frac{1}{2}$	4	16	12
$5\frac{1}{2}$	4	$1\frac{1}{2}$	4	30	14
6	6	$1\frac{1}{2}$	4	16	12
8	6	$1\frac{1}{2}$	5	30	14
8	8	$1\frac{1}{2}$	4	16	12
10	10	$1\frac{1}{2}$	4	16	12

Size Finished, $3\frac{3}{4} \times 4\frac{3}{4}$ Inches					
Length of Arm Feet	No. of Pins	Size of Pin Inches	End	Center	Side
$5\frac{1}{2}$	4	$1\frac{1}{2}$	4	30	14
$7\frac{5}{8}$	6	$1\frac{1}{2}$	4	30	14
$10\frac{1}{8}$	8	$1\frac{1}{2}$	4	30	14

We are prepared to furnish "Exemplar" Cross-arms in all sizes from our Southern mill.

Cross-arm Materials

For outside construction we are confined to the Conifers on account of the liability of the Hardwoods to warp.

The Conifers vary in strength about in proportion to their weights. Forest Service breaking tests on cross-arms $3\frac{1}{4} \times 4\frac{1}{4}$ inches by 6 feet yielded the following results in pounds per square inch, from which it is evident that the same strength may be obtained by substituting a smaller Long-leaf arm for that of any of the other Conifers, making its weight the same, but reducing its footage and cost, this reduced footage and cost being represented by percentages in the second column:

	Strength in Lbs. per Square Inch	Reduced Footage
Long-leaf Yellow Pine	10,900	.....
Loblolly Pine	10,100	.....
Shortleaf Yellow Pine	9,260	84.95%
White Pine	7,900	72.48%
Red Cypress	7,900	72.48%
Shortleaf Pine, Creosoted	7,650	70.18%
Douglas Fir	7,590	69.63%
White Cedar (Juniper)	5,200	47.70%

Accurate figures for comparative resistance to decay are not obtainable, and would of course vary with the climate.



This cross-arm was installed for service in 1890, and was removed from the pole in 1911, because of line changes. It was sent us by a Central Station in New England as an example of the long life of genuine Long-leaf Yellow Pine Cross-arms. This arm has been in the Pettingell-Andrews Company warehouse ever since, and today, after twenty-one years' service on a pole line, and 14 years in our warehouse, is as strong and solid as new timber and the only sign of decay is about one-half inch of sapwood in one corner. Otherwise the arm is perfect.



Exemplar Fir Cross Arms



The following have generally been recognized as standard arms. Any variation from the following must be plainly stated on the order.

Cat. No. Fir	PIN HOLES				Center Bolt Hole Inches	Brace Inches	Size and Length	No. of Pins	Weight Pounds per Arm	List Price per 100 Arms
	Center	SPACINGS, INCHES Sides	Ends	Size Inches						
Electric Light Arms										
5800	28	....	4	1 1/2	5/8	25	3 1/4 x 4 1/4 3 ft.	2	10.2	\$78.75
5801	16	12	4	1 1/2	5/8	28	4 "	4	13.6	105.00
5802	18	17	4	1 1/2	5/8	28	5 "	4	17	131.25
5803	22	21	4	1 1/2	5/8	32	6 "	4	20.4	157.50
5804	16	12	4	1 1/2	5/8	32	6 "	6	20.4	157.50
5805	18	17 1/2	4	1 1/2	5/8	32	8 "	6	27.2	210.00
5806	16	12	4	1 1/2	5/8	32	8 "	8	27.2	210.00
5807	16	9 3/4	4	1 1/2	5/8	32	8 1/2 "	10	28.9	236.25
5808	17 1/2	15 3/4	4	1 1/2	5/8	42	10 "	8	34	262.50
5809	16	12	4	1 1/2	5/8	42	10 "	10	34	262.50
5810	16	9 5/8	3 7/8	1 1/2	5/8	42	10 "	12	34	262.50
R. S. A. Arms										
5812	20	22	4	9/16	11/16	..	3 x 4 1/4 6 ft.	4	19.2	\$146.25
5814	19	17 1/4	4	9/16	11/16	..	8 "	6	25.6	185.00
5816	19	15 1/2	4	9/16	11/16	..	10 "	8	32	243.75
5817	16	12 3/8	2 1/2	9/16	11/16	..	10 "	10	32	243.75
Western-Union Arms										
5920	20	11 1/2	3	9/16	11/16	..	3 x 4 1/4 6 ft.	6	19.2	\$146.25
5921	21	11 1/2	3	9/16	11/16	..	8 "	8	25.6	195.00
5922	22	11 1/2	3	9/16	11/16	..	10 "	10	32	243.75
Pony Telephone Arms										
5819	17	....	3 1/2	1 9/32	5/8	..	2 3/4 x 3 3/4 24 in.	2	5	\$40.00
5820	23	....	3 1/2	1 9/32	5/8	..	30 "	2	6.25	50.00
5821	29	....	3 1/2	1 9/32	5/8	25	36 "	2	7.5	60.00
5822	16	9 1/2	3 1/2	1 9/32	5/8	28	42 "	4	8.75	70.00
5823	16	9 3/4	3 1/2	1 9/32	5/8	28	62 "	6	13	103.34
5824	16	9 3/4	3 3/4	1 9/32	5/8	28	82 "	8	17	136.66
5825	16	9 3/4	4	1 9/32	5/8	28	102 "	10	21.25	170.00
5826	16	9 5/8	3 7/8	1 9/32	5/8	28	120 "	12	25	200.00
N. E. L. A. Arms										
5828	30	....	4	1 1/2	11/16	28	3 1/2 x 4 1/2 3 ft. 2 in.	2	12 3/8	\$118.74
5829	30	14 1/2	4	1 1/2	11/16	38	5 " 7 "	4	22 1/8	178.12
5830	30	14 1/2	4	1 1/2	11/16	38	8 "	6	32	237.50
5831	30	12	4	1 1/2	11/16	38	9 " 2 "	8	36 3/8	296.88
N. E. L. A. (Light) Arms										
5833	30	....	4	1 1/2	11/16	28	3 1/4 x 4 1/4 3 ft. 2 in.	2	10.77	\$105.00
5834	30	14 1/2	4	1 1/2	11/16	38	5 " 7 "	4	18.98	157.50
5835	30	14 1/2	4	1 1/2	11/16	38	8 "	6	27.2	210.00
5836	30	12	4	1 1/2	11/16	38	9 " 2 "	8	31 1/8	262.50
New England Arms										
5838	30	....	3	1 1/2	11/16	33	3 1/4 x 4 1/4 3 ft.	2	10.2	\$78.75
5839	30	13 1/2	4 1/2	1 1/2	11/16	36	5 " 6 in.	4	18.7	157.50
5840	30	13 1/2	4 1/2	1 1/2	11/16	36	7 " 9 "	6	26.35	210.00
5841	30	13 1/2	4 1/2	1 1/2	11/16	36	10 "	8	34	262.50
New England Power Arms										
5843	30	....	3	1 1/2	11/16	33	3 3/4 x 4 3/4 3 ft.	2	13.5	\$100.00
5844	30	13 1/2	4 1/2	1 1/2	11/16	36	5 " 6 in.	4	24.75	200.00
5845	30	13 1/2	4 1/2	1 1/2	11/16	36	7 " 9 "	6	34.87	266.66
5846	30	13 1/2	4 1/2	1 1/2	11/16	36	10 "	8	45	333.34
Pacific Arms										
5848	28	....	4	1 1/2	5/8	32	3 1/4 x 4 1/4 3 ft.	2	10.2	\$75.75
5849	28	12	4	1 1/2	5/8	32	5 "	4	17	131.25
5850	28	12	4	1 1/2	5/8	32	7 "	6	23.8	183.75
5851	28	12	4	1 1/2	5/8	42	9 "	8	30.6	236.25
5852	28	12	4	1 1/2	5/8	42	11 "	10	37.4	288.75
Pacific Power Arms										
5854	28	....	4	1 1/2	5/8	32	3 3/4 x 4 3/4 3 ft.	2	15.5	\$100.00
5855	28	12	4	1 1/2	5/8	32	5 "	4	22.5	166.66
5856	28	12	4	1 1/2	5/8	32	7 "	6	31.5	333.34
5857	28	12	4	1 1/2	5/8	42	9 "	8	40.5	300.00
5858	28	12	4	1 1/2	5/8	42	11 "	10	49.5	376.66

Special Note

All arms bored for one 5/8-inch center bolt and two 3/8-inch brace bolt holes unless otherwise specified.

Pin holes will be bored, unless otherwise specified, as follows:

Electric Light Arm..... 1 1/2-inch
Railroad Arms..... 9/16 "

Telephone Arms..... 1 9/32-inch
N. E. L. A. Arms..... 1 1/2-inch



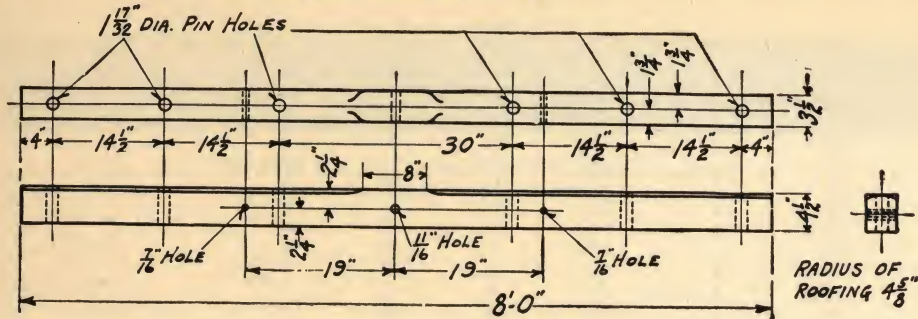
Exemplar Special Cross Arms

How to Order

The standard arms shown on the preceding page will generally meet all the requirements of telephone, telegraph and low voltage work.

Specially manufactured arms to meet particular requirements and arms for high voltage Transmission lines can be furnished promptly from our mills as well as most of our distributing warehouses. No extra charge is made for arms bored according to your specifications.

Particular care should be taken in ordering arms with special borings or spacing of holes. Whenever possible, a working drawing should accompany the order and the following information should be given.



Fir or Pine.....			Brace Holes.....	inches	7 1/4
Length.....	feet	8	Spacing of Brace Holes.....	"	38
Cross Section.....	inches	3 1/2 x 4 1/2	Whether Under Arm or Side Brace.....		
Number of Pins.....		6	Center Pin Spacing.....	inches	30
Size Pin Holes.....	inches	1 1/2	Side Pin Spacing.....	"	14 1/2
Center Bolt Hole.....	"	7/16	End " ".....	"	4

Written on order as follows—

8 feet (6 pin 1 1/2 inches diam.) 3 1/2 x 4 1/2 x 7/16 inches, Spacing 30 inches, C. 14 1/2 inches.

S, 4 inch ends—7/16-inch brace bolt holes 38 inches apart.

Unless otherwise noted, all arms will be roofed or rounded on top to shed water.

SPECIAL NOTE.—Arms specially manufactured are of no value for general stock and are not returnable.

Specifications Covering Cross Arms

General

The specifications and drawings are intended to include all instructions necessary for the manufacturer to guide him in his work. They are intended to supplement each other, and any details indicated in one and not in the other shall be executed the same as if indicated in both.

Dimensions

Cross arms shall be of the style and dimensions shown and allowable variations must not be exceeded. Figures on the drawings shall be followed in preference to scale measurements.

Seasoning

Cross arms shall be made of thoroughly air-dried or kiln-dried timber.

Material—Exemplar Fir

SAPWOOD.—Sapwood in excess of 25 per cent of any cross section taken in a plane perpendicular to the longitudinal axis of the cross arm.

GRAIN.—Grain as shown by the annular rings of the wood which departs from parallelism with the edge of the cross arm by an amount greater than 5 per cent or approximately 1 1/8 inches to the foot.

PITCH POCKETS.—Pitch pockets exceeding 8 inches in length or 1/4 inch in width. Pitch pockets exceeding 4 inches in length or 1/4 inch in width which enter a pin or bolt hole on the top of the arm. Single pitch pockets which extend through the arm appearing on more than one surface.

KNOTS.—Loose or unsound knots. Knots exceeding 1/4 inch in diameter in any 3-inch longitudinal section having pin or bolt hole at its center. Single knots of a plurality of knots in any 6-inch longitudinal section having a total diameter in excess of 3/4 inch. The least diameter of a knot shall be considered its diameter for the purpose of this specification.

WANE.—Bark or reduction of cross section due to removal of bark.

SHAKES.—Cracks or splits concentric to the annular rings of the wood.

CHECKS.—Checks exceeding 12 inches in length, 3/4 inch in depth or 1/8 inch in width.

WARP.—Warp exceeding 1/2 inch for cross arms 6 feet or less in length, 3/4 inch for cross arms 8 feet or less in length, and 1 inch for cross arms 10 feet or less in length. The warp shall be determined by measuring the offset between the cross arm and a straight edge laid lengthwise on the concave face of the cross arm.

Loose Heart.

Rot. Rot, dote or red heart.

Worm Holes.

LONG-LEAF YELLOW PINE.—Genuine Long-Leaf Yellow Pine, guaranteed every arm at least 85 per cent at any cross section and free from knots (except small, sound knots, not over one inch in diameter), or other defects that would impair the strength of the arm.

Inspection

Pin and bolt holes shall be tested with steel gauges, as follows:

1 1/2-inch pin holes shall admit the 1 1/2-inch gauge without forcing, but shall not admit the 1 5/8-inch gauge.

5/8-inch bolt holes shall admit the 5/8-inch gauge without forcing.

1/2-inch bolt holes shall admit the 1/2-inch gauge without forcing.

3/8-inch bolt holes shall admit the 3/8-inch gauge without forcing.

The pin and bolt holes shall be smooth and free from excessive splintering where the bit has broken through.

Storage

Cross arms held for storage shall be stacked in cross piles on skids in such a manner as to insure good ventilation. The stacks shall be roofed to prevent the penetration of rain or the direct action of the sun.



Freight Charges per 100 Fir Cross Arms at Various Freight Rates

For convenience in figuring delivered prices on Fir Arms the following table has been compiled:

Rate	3 In.						3 1/4 In. x 4 1/4 In.						3 1/2 In. x 4 1/2 In.						3 3/4 In. 4 In.	
	42 In.	62 In.	82 In.	102 In.	120 In.	140 In.	3 Ft.	4 Ft.	5 Ft.	5 Ft.	6 Ft.	8 Ft.	10 Ft.	3 Ft.	5 Ft.	8 Ft.	10 Ft.	12 Ft.	14 Ft.	16 Ft.
10	\$1.30	\$1.70	\$2.13	\$2.50	\$3.20	\$1.02	\$1.36	\$1.70	\$1.90	\$2.04	\$2.72	\$3.40	\$1.27	\$2.23	\$3.20	\$4.00	\$4.50	\$5.00		
20	1.75	2.60	3.40	4.25	5.00	6.40	2.04	2.72	3.40	3.80	4.08	5.44	6.80	2.53	4.47	6.40	8.00	9.00	10.00	
30	2.63	3.90	5.10	6.38	7.50	9.60	3.06	4.08	5.10	5.70	6.12	8.16	10.20	3.80	6.70	9.60	12.00	13.50	15.00	
40	3.50	5.20	6.80	8.50	10.00	12.80	4.08	5.44	6.80	7.60	8.16	10.88	13.60	5.07	8.93	12.80	16.00	18.00	20.00	
50	4.38	6.50	8.50	10.63	12.50	16.00	5.10	6.80	8.50	9.50	10.20	13.60	17.00	6.33	11.17	16.00	20.00	22.50	25.00	
56 1/2	4.94	7.35	9.61	12.01	14.13	18.08	5.76	7.68	9.61	10.74	11.53	15.37	19.21	7.16	12.62	18.08	22.60	25.43	28.25	
60	5.25	7.80	10.20	12.75	15.00	19.20	6.12	8.16	10.20	11.40	12.24	16.32	20.40	7.60	13.40	19.20	24.00	27.00	30.00	
62 1/2	5.47	8.13	10.63	13.28	15.63	20.00	6.38	8.50	10.63	11.88	12.75	17.00	21.25	7.92	13.96	20.00	25.00	28.13	31.25	
66	5.78	8.58	11.22	14.03	16.50	21.12	6.73	8.98	11.22	12.54	13.46	17.95	22.44	8.36	14.74	21.12	26.40	29.70	33.00	
66 1/2	5.82	8.65	11.31	14.13	16.63	21.28	6.78	9.04	11.31	12.64	13.57	18.09	22.61	8.42	14.85	21.28	26.60	29.93	33.25	
69	6.04	8.97	11.73	14.66	17.25	22.08	7.04	9.38	11.73	13.11	14.08	18.77	23.46	8.74	15.41	22.08	27.60	31.05	34.50	
70	6.13	9.10	11.90	14.88	17.50	22.40	7.14	9.52	11.90	13.30	14.28	19.04	23.80	8.87	15.63	22.40	28.00	31.50	35.00	
72	6.30	9.36	12.24	15.30	18.00	23.04	7.34	9.79	12.24	13.68	14.69	19.58	24.48	9.12	16.08	23.04	28.80	32.40	36.00	
73	6.39	9.49	12.41	15.51	18.25	23.36	7.45	9.93	12.41	13.87	14.89	19.86	24.82	9.25	16.30	23.36	29.20	32.85	36.50	
74	6.48	9.62	12.58	15.73	18.50	23.68	7.55	10.06	12.58	14.06	15.10	20.13	25.16	9.38	16.52	23.68	29.60	33.30	37.00	
74 1/2	6.52	9.69	12.67	15.83	18.63	23.84	7.60	10.13	12.67	14.16	15.20	20.26	25.33	9.44	16.64	23.84	29.80	33.53	37.25	
75	6.56	9.75	12.75	15.94	18.75	24.00	7.65	10.20	12.75	14.25	15.30	20.40	25.50	9.50	16.75	24.00	30.00	33.75	37.50	
75 1/2	6.61	9.82	12.84	16.04	18.88	24.16	7.70	10.27	12.84	14.35	15.40	20.54	25.67	9.57	16.86	24.16	30.20	33.98	37.75	
76	6.65	9.88	12.92	16.15	19.00	24.32	7.75	10.34	12.92	14.44	15.50	20.67	25.84	9.63	16.97	24.32	30.40	34.20	38.00	
78	6.83	10.14	13.26	16.58	19.50	24.96	7.96	10.61	13.26	14.82	15.91	21.22	26.52	9.88	17.42	24.96	31.20	35.10	39.00	
78 1/2	6.87	10.21	13.35	16.68	19.63	25.12	8.01	10.68	13.35	14.92	16.01	21.35	26.69	9.95	17.53	25.12	31.40	35.33	39.25	
80	7.00	10.40	13.60	17.00	20.00	25.60	8.16	10.88	13.60	15.20	16.32	21.76	27.20	10.13	17.87	25.60	32.00	36.00	40.00	
80 1/2	7.04	10.47	13.69	17.11	20.13	25.76	8.21	10.95	13.69	15.30	16.42	21.90	27.37	10.19	17.98	25.76	32.20	36.23	40.25	
81	7.09	10.53	13.77	17.21	20.25	25.92	8.26	11.02	13.77	15.39	16.52	22.03	27.54	10.26	18.09	25.92	32.40	36.45	40.50	
82	7.18	10.66	13.94	17.43	20.50	26.24	8.36	11.15	13.94	15.58	16.73	22.30	27.88	10.39	18.31	26.24	32.80	36.90	41.00	
82 1/2	7.22	10.73	14.03	17.53	20.63	26.40	8.42	11.22	14.03	15.68	16.83	22.44	28.05	10.45	18.43	26.40	33.00	37.13	41.25	
83	7.26	10.79	14.11	17.64	20.75	26.56	8.47	11.29	14.11	15.77	16.93	22.58	28.22	10.51	18.54	26.56	33.20	37.35	41.50	
84 1/2	7.39	10.99	14.37	17.96	21.13	27.04	8.62	11.49	14.37	16.06	17.24	22.98	28.73	10.71	18.87	27.04	33.80	38.03	42.25	
85	7.44	11.05	14.45	18.06	21.25	27.20	8.67	11.56	14.45	16.15	17.34	23.12	28.90	10.77	18.99	27.20	34.00	38.25	42.50	
88 1/2	7.74	11.51	15.05	18.80	22.13	28.32	9.02	12.54	15.05	16.82	18.05	24.07	30.09	11.21	19.76	28.32	35.40	39.83	44.25	
90	7.88	11.70	15.30	19.13	22.50	28.80	9.18	12.74	15.30	17.10	18.36	24.48	30.60	11.40	20.10	28.80	36.00	40.50	45.00	
91 1/2	8.01	11.90	15.56	19.44	22.88	29.28	9.33	12.94	15.56	17.39	18.67	24.89	31.11	11.59	20.44	29.28	36.60	41.18	45.75	
92	8.05	11.96	15.64	19.55	23.00	29.44	9.38	12.51	15.64	17.48	18.77	25.02	31.28	11.65	20.55	29.44	36.80	41.40	46.00	
92 1/2	8.09	12.03	15.73	19.66	23.13	29.60	9.44	12.58	15.73	17.58	18.87	25.16	31.45	11.72	20.66	29.60	37.00	41.63	46.25	
93	8.14	12.09	15.81	19.76	23.25	29.76	9.49	12.65	15.81	17.67	18.97	25.30	31.62	11.78	20.77	29.76	37.20	41.85	46.50	
94	8.23	12.22	15.98	19.98	23.50	30.08	9.59	12.78	15.98	17.86	19.18	25.57	31.96	11.91	20.99	30.08	37.60	42.30	47.00	
94 1/2	8.27	12.29	16.07	20.08	23.63	30.24	9.64	12.85	16.07	17.96	19.28	25.70	32.13	11.97	21.11	30.24	37.80	42.53	47.25	
97	8.49	12.61	16.49	20.61	24.25	31.04	9.89	13.19	16.49	18.43	19.79	26.38	32.98	12.29	21.66	31.04	38.80	43.65	48.50	
98	8.58	12.74	16.66	20.83	24.50	31.36	10.00	13.33	16.66	18.62	19.99	26.66	33.32	12.41	21.89	31.36	39.20	44.10	49.00	
101	8.84	13.13	17.17	21.46	25.25	32.32	10.30	13.74	17.17	19.19	20.60	27.47	34.34	12.79	22.56	32.32	40.40	45.45	50.50	
102 1/2	8.97	13.33	17.43	21.78	25.63	32.80	10.46	13.94	17.43	19.48	20.91	27.88	34.85	12.98	22.89	32.80	41.00	46.13	51.25	
103 1/2	9.06	13.46	17.60	21.99	25.88	33.12	10.56	14.08	17.60	19.67	21.11	28.15	35.19	13.11	23.12	33.12	41.40	46.58	51.75	
104	9.10	13.52	17.68	22.10	26.00	33.28	10.61	14.14	17.68	19.76	21.22	28.29	35.36	13.17	23.23	33.28	41.60	46.80	52.00	
104 1/2	9.14	13.59	17.77	22.21	26.13	33.44	10.66	14.21	17.77	19.86	21.32	28.42	35.53	13.24	23.33	33.44	41.80	47.03	52.25	
106 1/2	9.32	13.85	18.11	22.63	26.63	34.08	10.86	14.48	18.11	20.24	21.73	28.97	36.21	13.49	23.79	34.08	42.60	47.93	53.25	

To get delivered price per hundred arms take net price as shown on the current F sheet and add freight charges as per above table. Our freight rate sheet No. 13 quotes carload rates from Pacific coast mills to principal points using fir cross arms.

Example:—Wanted price on a carload of 3 1/4 x 4 1/4 x 8 ft. 0 in. fir arms delivered on a 95 1/2 c rate.

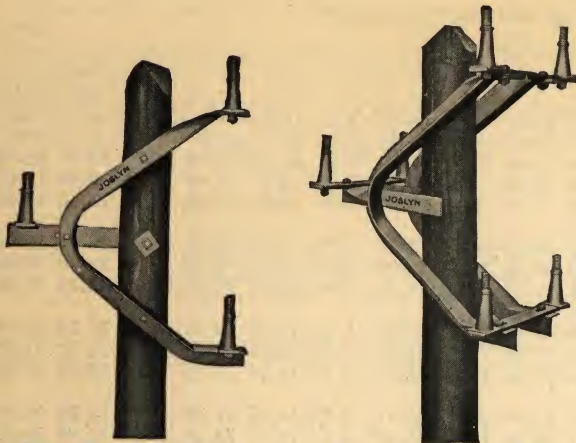
Mill price.....	\$77.18 per 100
Freight @ 90 cents.....	24.48
Freight @ 5 cents (1/10 of 50 cents).....	1.36
Freight @ 1/2 cent (1/100 of 50 cents).....	.136
	<u>\$103.156</u>

Using the nearest cent, the price to quote would be \$103.16 per hundred arms.

Fir cross arms in carloads from the Pacific Coast are always sold with freight allowed to destination.



Seyler Bow Arrow Steel Cross Arms



Single Bow Arrow Arm

Double Bow Arrow Arm

All three wires are equidistant on the Bow Arrow Arm, which reduces reactance and inductance losses to a minimum. All parts are bent while hot and hot galvanized after forming.

The arrow or horizontal part has a slotted hole which makes this arm adjustable to any size pole. By means of double arming, this type of arm is given almost double strength. A double arming set consists of one right hand assembly, one left hand assembly, three crosspieces of $\frac{1}{2} \times 3$ -inch flat steel, six $\frac{3}{4} \times 2$ -inch bolts for clamping the crosspieces to the arms and two $\frac{3}{4} \times 2$ -inch bolts for holding the bows to the arrows.

The flat crosspiece on which the pin rests is necessary to give sufficient clearance for the larger sizes of high tension insulators. Crosspiece is omitted on sizes smaller than 36 inches. It may be modified to accommodate one pin only, this pin to be carried in the center between the two sections.

The installation cost is low, there being only three through bolts used in securing the arm to the pole. A $\frac{3}{4} \times 1\frac{1}{2}$ -inch machine bolt holds the two parts together. The bayonets may be mounted on the pole by means of the two upper bolts that hold the bow arrow arm in place.

Some users prefer to have the overhead ground wire insulated from the steel arm. When this feature is desired, bayonets can be furnished with a lead thread cast on the top to receive a 1-inch thread insulator.

Single Bow Arrow Arms

Cat. No.	Wire Spacing Inches	Size Angle Inches	Wt., Lbs. per 100	Price Each
1140	24	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{4}$	2100	\$1.66
1141	30	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{4}$	2500	1.91
1142	36	3 x3 x $\frac{1}{4}$	3900	2.58
1143	52	3 x3 x $\frac{1}{4}$	5200	3.32
1144	72	3 x3 x $\frac{1}{4}$	6900	4.32

One $\frac{3}{4} \times 1\frac{1}{2}$ -inch machine bolt is included in the above prices. These are shipped separately in boxes.

Double Bow Arrow Arms

Cat. No.	Wire Spacing Inches	Size Angle Inches	Wt., Lbs. per Set	Price per Set
1146	24	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{4}$	43	\$3.46
1147	30	$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{4}$	51	3.92
1148	36	3 x3 x $\frac{1}{4}$	113	7.55
1149	52	3 x3 x $\frac{1}{4}$	139	9.24
1150	72	3 x3 x $\frac{1}{4}$	173	10.91

Machine bolts for attaching to the pole are not included in the prices and should be ordered separately.

Joslyn Galvanized Cross-arm Braces

Braces are punched one inch from each end, with a $\frac{1}{8}$ -inch hole at one end and a $\frac{1}{16}$ -inch hole at the other.

Size Inches	Std. Wt., Lbs. Pkg. per 1000	Price per 1000	Size Inches	Std. Wt., Lbs. Pkg. per 1000	Price per 1000
1 x $\frac{3}{16} \times 20$	20 1000	\$100.00	$1\frac{1}{4} \times \frac{7}{32} \times 34$	20 2400	\$240.00
1 x $\frac{3}{16} \times 22$	20 1100	110.00	$1\frac{1}{4} \times \frac{7}{32} \times 36$	20 2540	254.00
1 x $\frac{3}{16} \times 24$	20 1200	120.00	$1\frac{1}{4} \times \frac{1}{4} \times 20$	20 1670	167.00
$1\frac{3}{4} \times \frac{3}{16} \times 28$	20 1680	168.00	$1\frac{1}{4} \times \frac{1}{4} \times 22$	20 1835	183.00
$1\frac{7}{32} \times \frac{7}{32} \times 20$	20 1420	142.00	$1\frac{1}{4} \times \frac{1}{4} \times 24$	20 2000	200.00
$1\frac{7}{32} \times \frac{7}{32} \times 22$	20 1560	156.00	$1\frac{1}{4} \times \frac{1}{4} \times 26$	20 2165	216.50
$1\frac{7}{32} \times \frac{7}{16} \times 24$	20 1700	170.00	$1\frac{1}{4} \times \frac{1}{4} \times 28$	20 2335	233.50
$1\frac{7}{32} \times \frac{7}{32} \times 26$	20 1840	184.00	$1\frac{1}{4} \times \frac{1}{4} \times 30$	20 2500	250.00
$1\frac{7}{32} \times \frac{7}{32} \times 28$	20 1980	198.00	$1\frac{1}{4} \times \frac{1}{4} \times 32$	20 2665	266.50
$1\frac{7}{32} \times \frac{7}{32} \times 30$	20 2120	212.00	$1\frac{1}{4} \times \frac{1}{4} \times 34$	20 2835	283.00
$1\frac{7}{32} \times \frac{7}{32} \times 32$	20 2260	226.00	$1\frac{1}{4} \times \frac{1}{4} \times 36$	20 3000	300.00

Joslyn Angle Iron Double Span Cross-arm Braces



All holes are punched $\frac{1}{8}$ -inch diameter for $\frac{1}{2}$ -inch bolts.

Size Inches	Centers Inches	Drop Inches	Wt., Lbs. per 100	Price per 100
$2\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	42	12	780	\$105.50
$1\frac{3}{4} \times 1\frac{1}{4} \times \frac{3}{16}$	42	16	1100	126.80
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	48	14	890	117.50
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	60	18	1110	165.30
$1\frac{3}{4} \times 1\frac{1}{4} \times \frac{3}{16}$	60	18	1300	164.70
$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	66	20	1365	173.80
$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	72	22	1450	190.60

Joslyn Steel Back Braces



Size Inches	Lgth. Ft.	Wt., Lbs. per 100	Price per 100	Size Inches	Lgth. Feet	Wt., Lbs. per 100	Price per 100
* $1\frac{1}{2} \times \frac{3}{8}$	6	1150	\$134.20	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	6	1100	\$140.00
† $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	5	900	117.90	$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	9 ft., 2 in.	1935	229.60

*Flat iron. †Angle iron. Center holes, $\frac{1}{8}$ -in. End, $\frac{1}{16}$ -in.

Joslyn Alley Arm Braces

Angle Iron with Forged Ends and Step



Alley braces are punched with $\frac{1}{8}$ -inch holes, one for attaching to cross-arm and two for attaching to pole.

Size Inches	Lgth. Ft.	Wt., Lbs. per 100	Price per 100	Size Inches	Lgth. Ft.	Wt., Lbs. per 100	Price per 100
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	5	750	\$144.60	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	7	1430	\$222.20
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	5	1050	180.96	$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	7	1725	250.20
$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	5	1280	216.30	2 x2 x $\frac{1}{4}$	10	3600	498.20
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	6	1240	198.90				

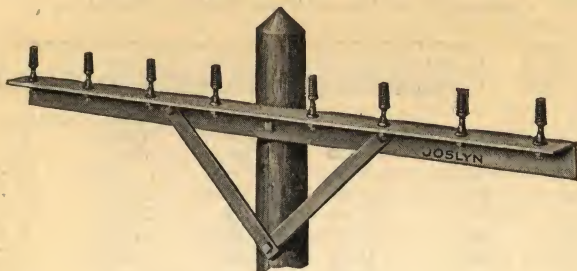
Joslyn Angle Iron Vertical Braces

All holes are punched $\frac{1}{8}$ -inch diameter.

18-INCH SPACING				24-INCH SPACING			
No. of Arms	Size Inches	Wt., Lbs. per 100	Price per 100	No. of Arms	Size Inches	Wt., Lbs. per 100	Price per 100
2	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	210	\$67.00	2	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	402	\$118.00
3	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	410	118.00	3	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	763	236.00
4	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	610	192.00	4	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	1122	264.00
2	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	315	89.00	2	$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	495	126.00
3	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	525	186.00	3	$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	935	252.00
4	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	870	264.00	4	$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	1375	334.00



Joslyn Angle Steel Cross Arms



Unless otherwise specified, all arms will be punched for one $\frac{5}{8}$ -inch center bolt and two $\frac{3}{8}$ -inch brace bolts. Size of pin holes is indicated in table. Size of angle is $3 \times 3 \times \frac{1}{4}$ inches.

Electric Light Arms

Cat. No.	Lgth. Feet	No. of Pins	Size In.	SPACING, INCHES Center Sides Ends	Wt., Lbs. per 100	Price per 100
1163	2 $\frac{3}{4}$	2	$\frac{5}{8}$	28 .. 2	1335	\$133.00
1164	3 $\frac{3}{4}$	4	$\frac{5}{8}$	16 12 2	1835	183.00
1165	4 $\frac{3}{4}$	4	$\frac{5}{8}$	18 17 2	2335	230.00
1166	5 $\frac{3}{4}$	4	$\frac{5}{8}$	22 21 2	2835	280.00
1185	5 $\frac{3}{4}$	6	$\frac{5}{8}$	16 12 2	2835	280.00
1186	7 $\frac{3}{4}$	6	$\frac{5}{8}$	18 17 $\frac{1}{2}$ 2	3835	383.00
1187	7 $\frac{3}{4}$	8	$\frac{5}{8}$	16 12 2	3835	383.00
1170	9 $\frac{3}{4}$	8	$\frac{5}{8}$	17 $\frac{1}{2}$ 15 $\frac{3}{4}$ 2	4835	480.00
1171	9 $\frac{3}{4}$	10	$\frac{5}{8}$	16 12 2	4835	480.00
1172	9 $\frac{3}{4}$	12	$\frac{1}{2}$	16 9 $\frac{5}{8}$ 3 $\frac{7}{8}$	4835	480.00

N. E. L. A. Arms

1174	2 $\frac{5}{8}$	2	$\frac{5}{8}$	30 .. 2	1410	\$140.00
1175	5 $\frac{1}{4}$	4	$\frac{5}{8}$	30 14 $\frac{1}{2}$ 2	2625	262.00
1176	7 $\frac{3}{4}$	6	$\frac{5}{8}$	30 14 $\frac{1}{2}$ 2	3835	383.00
1177	8 $\frac{5}{8}$	8	$\frac{5}{8}$	30 12 2	4410	400.00

Joslyn No-slip Guy Clamps



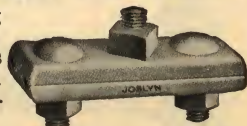
No. 1033

Great holding power is attained by means of the diagonal ridges in the grooves which fit the lay of the strand. Due to the large bearing surface on the strand, it is impossible for the strand to slip. High carbon steel track bolts, heat treated, are used to bind the two sections of the clamp together. The bolts have an oval neck under the head which slips into a similarly shaped hole in the clamp. This prevents the bolt from turning while the nuts are being tightened.

Cat. No.	Size	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1030	2-bolt 3-inch	110	200	\$24.70
1031	3 " 4 "	150	150	33.80
1033	3 " 6 " (A. T. & T. Standard)	210	100	39.50

No. 1128 Joslyn Forged Steel Guy Clamps

Drop forged and extra heavy being 2 inches wide and $\frac{7}{8}$ inch thick. Develops full strength of large sizes of strand such as $\frac{1}{2}$ and $\frac{1}{2}$ inch. Inverted middle bolt makes it convenient to tighten nuts.



Cat. No.	Size Inches	No. of Bolts	Wt., Lbs. per 100	Price per 100
1128	6	3	370	\$82.80

Universal Malleable Iron Guy Clamps

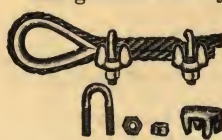
The Universal Clamp is made of galvanized malleable iron for two and three bolts.



Number of Bolts.....	2	3
Standard Package.....	200	125
Weight, per 100.....	pounds 100	160
Price.....	per 100 \$24.00	35.00

Crosby Wire Rope Clips

The genuine Crosby pattern, drop-forged and galvanized.

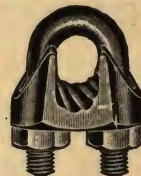


Size, Strand Inches	Wt., Lbs. per 100	Price per 100
$\frac{1}{4}$	25	\$35.00
$\frac{5}{16}$	25	35.00
$\frac{3}{8}$	37	40.00
$\frac{1}{2}$	75	45.00
$\frac{5}{8}$	87	55.00

Standard Wire Rope Clips

Made of malleable iron and galvanized.

Size, Strand Inches	Wt., Lbs. per 100	Price per 100
$\frac{1}{4}$	15	\$5.30
$\frac{5}{16}$	18	5.85
$\frac{3}{8}$	25	7.45
$\frac{1}{2}$	40	11.05
$\frac{5}{8}$	63	16.20



Universal Messenger Hangers

These hangers are used to suspend messenger wire which in turn suspends the cable.

Wire No.	No. of Bolts	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1	2	$\frac{1}{2} \times 2$	100	300	\$63.00
2	2	$\frac{3}{8} \times 1\frac{3}{4}$	100	240	58.90



Guy Hooks

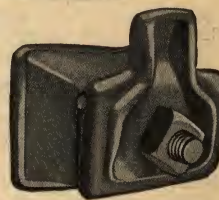
Made of half oval steel and galvanized; bent with flat side to the pole.



No. of Bolts	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1	$1\frac{1}{4} \times 1\frac{1}{4} \times 3$	500	30	\$8.40
1	$1\frac{1}{2} \times \frac{3}{8} \times 3\frac{1}{2}$	400	75	12.50
2	$1\frac{1}{2} \times \frac{3}{8} \times 6$	250	90	14.00
1	$1\frac{3}{4} \times \frac{3}{8} \times 4$	300	90	14.00

Joslyn Non-breakable Messenger Hangers

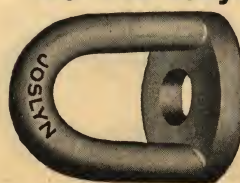
Another safe and efficient method of suspending the messenger strand. The back of the main casting is curved to fit the pole and the entire hanger is installed with one machine bolt. A particular feature of this hanger is the tip which extends above the hanger and prevents the strand from falling until it is pulled taut. The machine bolt should be loosened enough to allow the strand to fall into position in the groove and then tightened, completing the installation.



Made in two sizes of malleable iron and hot galvanized.

Cat. No.	Size	Wt., Lbs. per 100	Price per 100
1045	For $\frac{5}{16}$ -inch Strand and Smaller.....	150	\$34.00
1046	" $\frac{3}{8}$ " " " Larger.....	150	34.00

No. 1129 Joslyn Malleable Iron Eyelets



Eyelet is slipped on threaded end of a $\frac{5}{8}$ -inch bolt and the nut is screwed on. Hole is slotted to allow the eyelet to be attached to the head end of the bolt. Furnished hot galvanized.

Cat. No.	Wt., Lbs. per 100	Price per 100
1129	125	\$56.00



Joslyn Cable Suspension Clamps

A. T. & T. Standard



Designed for use on light lines or for temporary construction.

The one-bolt clamp is 2½ inches long, of rolled open hearth steel and hot galvanized. It is usually mounted on the pole with one ⅝-inch machine bolt, which also serves to clamp the strand in place. The three-bolt clamp is 6 inches long with a guy clamp track bolt on each end, providing greater bearing surface for the strand with less possibility of slipping. Mounted on pole with ⅝-inch machine bolt.

Cat. No.	Description	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1095	One-bolt	150	80	\$15.20
1096	Three-bolt	100	205	39.34

No. 1094 Joslyn Steel Eyelets or Clevises



It is made to fit over the end of a ⅝-inch bolt and has sufficient clearance to provide for two ⅝-inch nuts, forming a positive locking feature.

Cat. No.	Wt., Lbs. per 100	Price per 100
1094	60	\$18.82



Strain Plates

The purpose of a strain plate is to keep guy strain from cutting into the pole which not only injures it, but retains moisture about the strand and accelerates corrosion.

Made from 14-gauge galvanized steel plate.

Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
4x8	400	90	\$13.80

Butt Plates or Hub Guards

Used to protect base of poles from wagon hubs. All holes punched three-eighths-inch diameter for ⅝-inch boat spikes or nails.

Size	Weight per 100	Price
16x18	1200	\$400.00

Pole Shims

Shims are nailed to pole to prevent guy wire digging into pole. Shims punched with ¼-in. holes, ¾-in. from each end.



Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1 x 3/16x8	500	45	\$4.25
1 1/4 x 3/16x8	500	60	5.40

Wire Rope Thimbles

Made of half oval steel, galvanized and formed to fit the size of guy strand used.

Size In.	Wt., Lbs. per 100	Price per 100	Size In.	Wt., Lbs. per 100	Price per 100
1/4	6	\$7.00	1/2	18	\$11.00
5/16	8	8.00	3/8	36	13.00
3/8	10	9.00	3/4	55	15.00
7/16	15	10.00	..	..	..



American Galvanized Steel Strand Guy Wire

Composed of Seven Wires Twisted Together



Diam. Inches	Wt., Lbs. per 1000 Ft.	Regular		Siemen's Martin	
		Approx. Strength Lbs.	Price per 100 Ft.	Approx. Strength Lbs.	Price per 100 Ft.
5/8	813	11600	\$8.50	19100	\$8.25
1/2	517	7400	5.50	12100	5.25
7/16	399	5700	4.50	9350	4.30
3/8	296	4250	3.50	6950	3.25
5/16	205	3200	2.50	5350	2.50
1/4	121	1900	1.75	3150	1.70
3/16	73	1150	1.25	1900	1.35
5/16	32	540	1.00	910	.90

Diam. Inches	Wt., Lbs. per 1000 Ft.	High Strength		Extra High Strength	
		Approx. Strength Lbs.	Price per 100 Ft.	Approx. Strength Lbs.	Price per 100 Ft.
5/8	813	29600	\$12.00	42400	\$14.60
1/2	517	18800	7.25	26900	8.80
7/16	399	14500	6.00	20800	7.20
3/8	296	10800	4.40	15400	5.25
5/16	205	8000	3.20	11200	4.25
1/4	121	4750	2.25	6650	2.85
3/16	73	2850	1.80	3990	2.40
5/16	32	1330	1.20	1830	1.60

American Galvanized Arc Lamp Chain



Made in three sizes: Nos. 31 and 33 for suspending arc lamps, and No. 35 for suspending incandescent lamps. It is heavily galvanized and rust-proof.

Put up on 500 or 1000-foot reels.

Size No.	Description	Tensile Strength Lbs.	Wt., Lbs. per 1000 Feet	Price per 100 Feet
31	For Heavy Street Fixtures	915	118	\$8.50
33	" Medium "	725	89	8.25
35	" Light "	550	71	7.50

Galvanized Attachments

Price, Hook for No. 31 Chain	per 100	\$6.00
" " " " 33 "	" 100	6.00
" " " " 35 "	" 100	4.00
" Ring " " 31 "	" 100	9.00
" " " " 33 "	" 100	5.00
" " " " 35 "	" 100	3.00
" Connecting Link for No. 31 Chain, per 1000 sets	38.00	
" " " " 33 "	1000 "	38.00
" " " " 35 "	1000 "	30.00

Samson Spot Cord



Solid braided cotton, weather-proof finish.

Size No.	Diam. Inches	Approx. Feet in Std. Coil	Approx. Lbs. per 1200 Ft. Coil	Price per Lb.
6	3/16	1200	21	\$1.50
7	1/4	1200	26	1.50
8	5/16	1200	32	1.50
9	3/8	1200	40	1.50
10	7/16	1200	50	1.50
12	1/2	1200	70	1.50
14	5/8	1200	100	1.50
16	3/4	1200	125	1.50



Matthews Scrulix Anchors

Matthews Scrulix Anchors are screwed into solid ground. They have no moving parts to adjust or that might be carelessly buried unadjusted. Nothing to assemble.

The use of No. 300 Matthews Auger in hard grounds such as adobe, hardpan, gumbo, sunbaked clay, or disintegrated rock easily prepares the way for the quick installation of the Nos. 612R, 658R, 758R and 858R Matthews Scrulix Anchors.

The No. 375 Matthews Auger should be used before attempting to screw down the 858R, 800, 1000 and 1200 Matthews Scrulix Anchors. It will pay to use it in all but very soft or sandy ground before installing any of these anchors.

The Nos. 612R, 658R, 758R and 858R Matthews Scrulix Anchors will be furnished with galvanized rods. The Nos. 612R, 658R and 758R are packed in bundles of four each. All the rest are shipped singly. There has been no change in the wrench except to make it stronger. Nos. 800, 1000 and 1200 anchors are guaranteed to outlast galvanized steel round rods with a diameter of 1½, 1¼ or 1½ inches. The fact that the rods of these anchors are square gives them a greater cross section and makes it possible to use mild steel rods instead of high carbon steel rods. Mild steel rods resist rust very much better than high carbon steel. A No. 567 wrench must be used with all anchors smaller than No. 800. No wrench is needed for the Nos. 800, 1000 or 1200 anchors.

Round

Cat. No.	Anchor Rod Inches	Size In.	Lgth. Feet	Wt., Lbs. per 100	PRICE, PER 100	Less than 12	12 to 50	Over 50
612R	6	1½	6	750	\$390.00	\$370.00	\$350.00	
658R	6	5/8	6	1050	490.00	470.00	450.00	
758R	7	5/8	6	1200	570.00	550.00	530.00	
858R	8	5/8	6	1500	740.00	720.00	700.00	

Square

800	8	1½	6	3700	\$1650.00	\$1650.00	\$1650.00	
1000	10	1¼	6	5700	2100.00	2100.00	2100.00	
1200	12	1½	6	7900	2800.00	2800.00	2800.00	

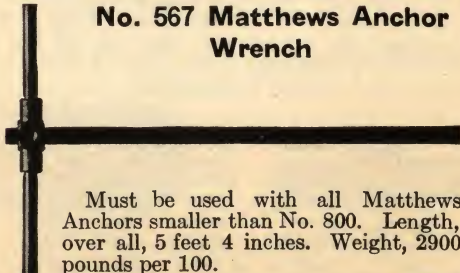
Matthews Augers

Cat. No.	Diam. of Anchor Inches	Length Inches	Wt., Lbs. per 100	Price per 100
300	3	71	1650	\$1700.00
375	3¾	71	1750	1750.00

Parts for Augers

Cat. No.	Description	Length Over All Inches	Price per 100
301H	Heads for 3-in. Auger.....	14	\$12.50
303C	Auger Blades for 3-in. Auger....	9¾	8.20
376H	Heads for 3¾-inch Auger.....	6½	13.00
378C	Auger Blades for 3¾-in. Auger...	14	8.80
3375	Blackburn Telescopic Handle....	3 ft., 1 in.	7.00

No. 567 Matthews Anchor Wrench



Must be used with all Matthews Anchors smaller than No. 800. Length, over all, 5 feet 4 inches. Weight, 2900 pounds per 100.

Price, No. 567.....per 100 \$1400.00

No. 865 Ratchet Handle

For installing 612R, 658R, 758R and 858R anchors close to buildings, fences, etc.

Weight, 1500 pounds per 100. Length, 37 inches.

Price, No. 865per 100 \$3200.00

Crouse-Hinds Harpoon Guy Anchors



Installs easily; has no loose parts and needs no other tool than a sledge hammer. Consists of a square rod with four wings, hinged in pairs near one end of rod and opening from opposite sides. End of rod carrying wings terminates in a hardened point, while other end is reinforced to withstand pounding, and also contains a ring for the guy wire.

When anchor is properly installed, its wings extend from rod at an angle of forty degrees. Four and one-half feet underground a pull-up, which can be applied with a digging bar as lever, or by pulling with come-alongs on guy wire, will serve to open wings in solid earth.

The holding power of this cone, averaging the different kinds of earth met with, is over four tons. Where anchor wings open out under a ledge of rock or strong root, this holding power is naturally greatly increased.

Illustration shows anchor with harpoons open.

Guy anchors are five feet long and weigh 23 pounds.

Price, Black Enamel.....each \$4.20
" Electro Galvanized....." 5.00

Bierce Guy Anchors



Acts on the principle of the inverted wedge, the conical point being projected upward in the direction of the pull. This construction causes the anchor to get tighter the harder it is pulled.

Directions for Installing

Bore a hole not less than five feet deep with an earth auger of the same diameter as the Bierce Anchor. Use ½-inch, 5/8-inch, or ¾-inch anchor rods, as desired, for 8-inch anchors, and 1-inch rods for the 12-inch size. Attach the anchor to the rod and drop it into the hole with the point up.

There are no adjustments to make after the anchor is in place. Just tamp about ½ cubic foot (1 water bucket full)

of coarse (2-inch) broken stone or hard brick firmly around the anchor, and then attach the guy wire. Fill hole and tamp well.

	DIAMETER, INCHES			
	5	6	8	12
Weight, Pounds...per 100	230	290	570	1500
Price.....each	\$.90	1.00	1.20	2.20

Prices do not include rods. Use standard guy rods.

Bierce Guy Wire Protectors



Made of heavy gauge steel, semi-circular in form and is furnished in 7 or 8-foot lengths. The protector is provided with a clamping device 18 inches from each end by which the protector is fastened to the guy wire at any desired point. One clamp has a bolt 3 inches longer than the other to enable the protector to be clamped over the anchor rod. The protector can be put on the guy wire after the wire is in place.

Description	PRICE	
	7-foot	8-foot
Price, Painted.....each	\$1.25	\$1.35
" Galvanized....."	1.65	1.75



Matthews Cable Clamps For Use On Power Cable Only



These clamps are designed to relieve the strain from cable ranging in size from 000 to 1500000 CM at Corners and dead ends, and to do away with the expense of splices at these places and the cost of making up into strain insulators, etc.

Guaranteed to effect a saving of at least \$5.00 per corner turn in cable to 500000 C M or larger.

Finish	Less than 25	PRICE, EACH 25 to 49	50 and Over
Painted Black	\$3.24	\$3.12	\$3.00
Galvanized	3.84	3.60	3.48

Packed in bags of 25 and 50 each. Shipping weight, 410 pounds per 100.

Paragon Grounds

Made of one continuous piece of pure No. 22 sheet copper. Five feet of No. 4 copper connecting wire furnished with each ground. The cones are perforated to give ample discharge points and filled with charcoal to give uniform filling and attract and hold moisture in the earth around the cone. The cylinders are not perforated and are furnished either filled with charcoal or open at both ends with no filling.

Cat. No.	Description	Length Filling	Price Each
1	Cylinder.....	1	\$5.00
2	".....	2	6.25
3	Cone.....	1	5.00
4	".....	2	6.25

Type MR Carbon Ground Cones

A solid carbon electrode which is non-porous (1½ inches in diameter by 23 inches in length) is surrounded by a carbonaceous mix which is porous and moisture absorbing. This carbonaceous mix is closely compacted around the solid carbon electrode.

The form of the ground is in the shape of a long upright cone, so that the pressure of the tamped earth will compact closely against it. At the top of the solid carbon electrode is a copper lug connection. This connection is sealed with a waterproof compound, leaving a tinned copper lug exposed ready for connection to a No. 4 B. & S. solid or stranded ground wire.

Diameter of cone, 5½x3½ inches.

Price.....each \$7.25

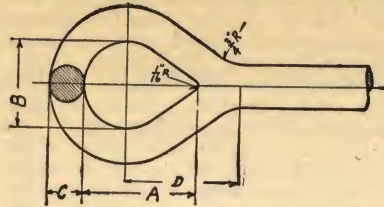
Joslyn Drop Forged Eye Nuts

Designed for use on the threaded end of a ½-inch or ⅝-inch machine bolt, eye bolt or double arm bolt, it may be put to a variety of uses. It is particularly adaptable for dead ending and supporting suspension type insulators from wood arms. Drop forged from open hearth steel, the ⅝-inch size is considerably stronger than ⅝-inch machine bolt. On several tests made with

tool steel bolts this nut broke at from 17,500 to 18,500 pounds which should provide a sufficient factor of safety for all line construction.

Cat. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1091	½	500	40	\$45.00
1092	⅝	500	40	52.00

Large Eyes on Joslyn Drop Forged Guy Rods, Eye Bolts and Turnbuckles



By referring to the chart it will be noted that the eye is extra large. The length of eye bolts is measured from the center of the eye to the end of the bolt. Dimension D is given so that the correct length rod or eye bolt may be specified when the length under the eye is known.

Diam. In.	A	B	C	D
1	1	¾	7/16	1 1/8
1 1/2	2	1 1/2	9/16	1 3/4
2	2	1 1/2	5/8	1 7/8
2 1/2	2 1/2	2	7/8	2 1/2

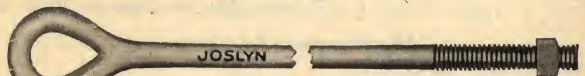
Drop-forged Eye Bolts



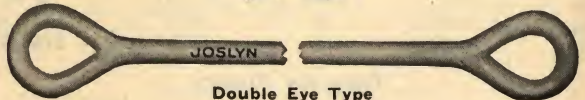
Up to 12 inches, 4 - inch thread; longer

Size In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Size In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1 1/2x 6	350	56	\$22.00	5/8x14	150	170	\$34.46
1 1/2x 8	300	69	23.50	5/8x16	125	189	36.60
1 1/2x10	225	82	25.00	5/8x18	100	208	38.86
1 1/2x12	200	95	26.54	5/8x20	100	227	41.06
1 1/2x14	200	107	28.06	3/4x10	100	205	43.56
1 1/2x16	200	119	29.60	3/4x12	100	233	46.76
1 1/2x18	150	132	31.10	3/4x14	100	260	49.96
1 1/2x20	150	144	32.64	3/4x16	100	287	53.16
5/8x 8	200	113	27.86	3/4x18	75	314	56.36
5/8x10	175	132	30.10	3/4x20	75	341	59.56
5/8x12	125	151	32.26	.....	.....	.....	.....

Joslyn Guy Rods



Regular Type T



Double Eye Type

Rods are thoroughly galvanized by the hot dip process. The galvanizing process is especially valuable on guy rods as they are continually in contact with the moist soil which is conducive to rapid rust and deterioration and a consequent concealed weakening of the rod.

The following standard sizes are usually carried in stock. Each rod is equipped with one square nut, but no washer is included because many companies have different standard sizes of washers for use on guy rods. If desired, washers should be ordered separately.

Double eye guy rods can be furnished at the same price.

Cat. No.	Size Feet	Tensile Strength Pounds	Pounds W. U. Specifcations	Std. Bundle	Wt., Lbs. per 100	Price per 100
1000	1/2x 5	10800	8000	20	295	\$56.60
1002	1/2x 6	10800	8000	20	340	65.00
1003	1/2x 7	10800	8000	10	395	73.50
1005	5/8x 5	16800	12000	10	500	73.50
1006	5/8x 6	16800	12000	10	590	85.00
1007	5/8x 7	16800	12000	10	680	98.40
1008	5/8x 8	16800	12000	10	770	108.00
1010	3/4x 6	24300	18500	10	840	118.60
1011	3/4x 7	24300	18500	10	950	134.76
1012	3/4x 8	24300	18500	5	1080	150.90
1013	3/4x 9	24300	18500	5	1210	166.90
1014	1 x 8	43200	.....	1	2350	281.50
1015	1 x10	43200	.....	1	2900	338.80



Joslyn Ground Rods with Wire

Galvanized



Joslyn ground rods are hammered to a point at one end so that they may be driven into the soil without difficulty.

The wired type has five turns of No. 10 B. & S. gauge copper wire securely soldered to the upper end of the rod, insuring a good electrical connection.

Cat. No.	Size In.	Std. Bundle	Wt., Lbs. per 100	Price per 100
1098	1/2x5	10	340	\$62.90
1099	1/2x6	10	405	71.36
1100	5/8x6	10	610	94.00

Joslyn Ground Rods without Wire



Cat. No.	Size In.	Standard Bundle	Wt., Lbs. per 100	Price per 100
1102	3/8x5	20	176	\$28.80
1103	3/8x6	20	213	34.40
1104	1/2x5	20	330	42.90
1105	1/2x6	20	360	51.36
1106	1/2x7	20	390	59.80
1107	5/8x6	10	555	72.00
1108	5/8x7	10	640	84.00
1109	5/8x8	10	725	96.00
1131	3/4x8	10	1200	134.00
1138	1 x8	5	2200	216.70
1061	1 x9	5	2475	256.00

Joslyn Ground Pipes



Ground Pipe with End Pointed



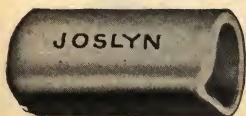
Ground Pipe with No. 1112 Point and No. 114 Cap

On account of the larger ground contact surface obtained, many users prefer a ground pipe instead of a solid rod.

A cork or plug which can be forced to any desired depth is placed in the upper end of the pipe. The ground wire from the pole is inserted in this receptacle after which molten solder is poured around the wire level with the top of the pipe.

Cat. No.	Size	Std. Bundle	Wt., Lbs. per 100	Price per 100
1110	1/2 in. x 8 ft.	5	...	\$140.00
1111	3/4 " x 8 "	5	875	170.00

Driving Points and Caps for Joslyn Ground Pipes



Driving Cap



Driving Point

The ground cap is designed to slip over a 3/4-inch or 1/2-inch ground pipe and is used to prevent the pipe from spreading when driven into the ground. It is also provided with a groove to accommodate the ground wire. The driving point is inserted in the lower end of the pipe and takes the place of the drawn point on the ground pipe.

Cat. No.	Description	Size In.	Wt., Lbs. per 100	Price per 100
1112	Hot Galv. Mall. Iron Point.....	1/2	19	\$48.00
1113	" " " " ".....	3/4	55	62.00
1114	" " " " Cap.....	1/2	98	108.00
1115	" " " " ".....	3/4	175	136.00

Joslyn Ground Wire Bayonets



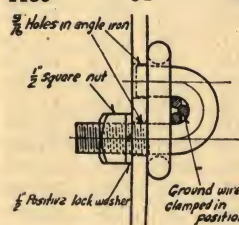
Made of angle iron with each leg of the angle punched on the upper end to receive the belcher clamp and the lower end is punched with two 1/4-inch holes for mounting to the pole. The corner bayonet is reinforced with an additional piece of angle iron and is used on poles where there is a bend in the line. A one-bolt suspension clamp, No. 1095, may be used in place of the belcher clamp. When the 1095 clamp is used, a notation to this effect should be placed on the order so the bayonets can be punched accordingly.

Straight Bayonets

Cat. No.	Lgth. In.	Size Angle In.	Wt. Lbs. per 100	Price per 100
1130	36	2 x2 x1/4	1000	\$96.00
1132	48	2 1/2x2 1/2x1/4	1640	150.00
1133	66	2 1/2x2 1/2x1/4	2250	200.00
1134	84	3 x3 x1/4	3100	260.00

Corner Bayonets

Cat. No.	Lgth. In.	Size Angle In.	Wt. Lbs. per 100	Price per 100
1135	36	2 x2 x3/16	1370	\$170.00
1136	48	2 x2 x3/16	1825	200.00
1137	66	2 x2 x1/4	3350	340.00
1139	84	2 1/2x2 1/2x1/4	5500	450.00



No. 1152 Belcher Clamps

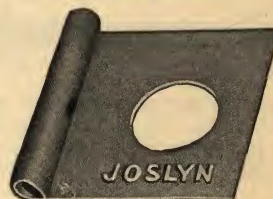
Easily installed, it is by far the best method of securing the round wire.

Designed to hold wires from No. 8 to 1/6-inch stranded.

Cat. No.	Type	Wt., Lbs. per 100	Price per 100
1152	J	44	\$28.00

Joslyn Terminals for Grounding Wires

Tinned Copper



The copper terminal is slipped under the head of the bolt used in holding the bayonet to the pole. The ground wire is inserted in the hole in the terminal and soldered. A good electrical connection is thus secured. Made of copper, tinned to facilitate soldering.

Weight, 9 pounds per 100.

Price, No. 1198.....per 100 \$10.00

Joslyn Cross Arm Ground Plates



Cross Arm Ground Plates are used to ground any wire that may become dislodged from the insulator and fall on the arm. They are made of galvanized steel 1/8x3 inches wide and are furnished either flat or rounded to fit the top of the arm. A tinned copper terminal is riveted on at the center to which the ground wire is soldered. They can be furnished with holes for any desired pin spacing.

Specify spacing and size of holes when ordering.

Cat. No.	Length Feet	Wt., Lbs. per 100	Price per 100
1180	5	655	\$49.00
1181	6	782	59.00
1182	8	1088	78.00
1183	9	1166	88.00
1184	10	1294	96.00



Machine Bolts



For attachment of cross-arms, machine or through bolts $\frac{5}{8}$ and $\frac{3}{4}$ -inch diameter, and from 8 to 24 inches in length are used.

All these bolts have square heads and square nuts.

Bolts 7 inches to 12 inches, inclusive, have 4-inch threads.

Bolts 13 inches and longer have 6-inch threads.

Bolts 6 inches and shorter have $1\frac{1}{2}$ -inch threads.

Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
$\frac{3}{8}$ x 3	1250	13	\$3.00	$\frac{5}{8}$ x10	200	102	\$12.30
$\frac{3}{8}$ x $3\frac{1}{2}$	1000	15	3.20	$\frac{5}{8}$ x11	175	110	13.10
$\frac{3}{8}$ x 4	1000	16	3.40	$\frac{5}{8}$ x12	175	118	13.90
$\frac{3}{8}$ x $4\frac{1}{2}$	1000	18	3.60	$\frac{5}{8}$ x13	175	126	14.70
$\frac{3}{8}$ x 5	1000	19	3.80	$\frac{5}{8}$ x14	200	134	15.50
$\frac{3}{8}$ x $5\frac{1}{2}$	1000	20	4.00	$\frac{5}{8}$ x15	175	142	16.30
$\frac{3}{8}$ x 6	600	22	4.20	$\frac{5}{8}$ x16	175	150	17.10
$1\frac{1}{2}$ x 4	600	32	5.20	$\frac{5}{8}$ x17	175	158	17.90
$1\frac{1}{2}$ x $4\frac{1}{2}$	600	35	5.50	$\frac{5}{8}$ x18	150	166	18.70
$1\frac{1}{2}$ x 5	500	37	5.80	$\frac{5}{8}$ x20	100	182	20.30
$1\frac{1}{2}$ x 6	500	43	6.40	$\frac{5}{8}$ x22	100	198	21.90
$1\frac{1}{2}$ x 7	500	48	8.00	$\frac{5}{8}$ x24	100	214	23.50
$1\frac{1}{2}$ x 8	400	53	8.60	$\frac{5}{8}$ x26	75	230	25.10
$1\frac{1}{2}$ x 9	350	58	9.20	$\frac{3}{4}$ x10	150	150	17.05
$1\frac{1}{2}$ x10	300	64	9.80	$\frac{3}{4}$ x11	125	162	18.15
$1\frac{1}{2}$ x11	300	69	10.40	$\frac{3}{4}$ x12	125	173	19.25
$1\frac{1}{2}$ x12	250	74	11.00	$\frac{3}{4}$ x13	100	185	20.35
$1\frac{1}{2}$ x13	200	80	11.60	$\frac{3}{4}$ x14	100	196	21.45
$1\frac{1}{2}$ x14	200	85	12.20	$\frac{3}{4}$ x15	125	208	22.55
$1\frac{1}{2}$ x15	250	90	12.80	$\frac{3}{4}$ x16	125	219	23.65
$1\frac{1}{2}$ x16	250	96	13.40	$\frac{3}{4}$ x17	100	231	24.75
$\frac{5}{8}$ x 8	250	86	10.70	$\frac{3}{4}$ x18	75	242	25.85
$\frac{5}{8}$ x 9	225	94	11.50	$\frac{3}{4}$ x20	75	265	28.05

Carriage or Brace Bolts



These bolts are used for attaching the braces to cross-arms on most overhead lines. They have standard heads and square nuts, and a generous length of thread. Prices on other sizes furnished on application.

Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price Each
$\frac{3}{8}$ x3	1000	13	\$2.50	$\frac{3}{8}$ x6	600	22	\$3.70
$\frac{3}{8}$ x $3\frac{1}{2}$	1000	15	2.70	$1\frac{1}{2}$ x4	600	30	4.15
$\frac{3}{8}$ x4	1000	17	2.90	$1\frac{1}{2}$ x $4\frac{1}{2}$	500	33	4.45
$\frac{3}{8}$ x $4\frac{1}{2}$	1000	18	3.10	$1\frac{1}{2}$ x5	500	36	4.75
$\frac{3}{8}$ x5	1000	19	3.30	$1\frac{1}{2}$ x $5\frac{1}{2}$	500	38	5.05
$\frac{3}{8}$ x $5\frac{1}{2}$	1000	21	3.50	$1\frac{1}{2}$ x6	500	41	5.35

Gimlet Point Lag Screws



Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
$\frac{3}{8}$ x $2\frac{1}{2}$	1500	9	\$3.30	$1\frac{1}{2}$ x 3	1000	19	\$4.95
$\frac{3}{8}$ x 3	1000	10	3.60	$1\frac{1}{2}$ x $3\frac{1}{2}$	1000	21	5.35
$\frac{3}{8}$ x $3\frac{1}{2}$	1000	11	3.90	$1\frac{1}{2}$ x 4	1000	23	5.75
$\frac{3}{8}$ x 4	1000	12	4.20	$1\frac{1}{2}$ x $4\frac{1}{2}$	1000	26	6.15
$\frac{3}{8}$ x $4\frac{1}{2}$	1000	13	4.50	$1\frac{1}{2}$ x 5	500	28	6.55
$\frac{3}{8}$ x 5	1000	14	4.80	$1\frac{1}{2}$ x 6	500	32	7.35
$\frac{3}{8}$ x 6	500	16.6	5.40	$1\frac{1}{2}$ x 7	500	37	9.15
$\frac{3}{8}$ x 7	500	19.1	7.00	$1\frac{1}{2}$ x 8	500	41.9	9.95
$\frac{3}{8}$ x 8	500	21.6	7.60	$1\frac{1}{2}$ x 9	500	46.6	10.75
$\frac{3}{8}$ x 9	500	24.1	8.20	$1\frac{1}{2}$ x10	500	51.3	11.55
$\frac{3}{8}$ x10	500	26.6	8.80	$1\frac{1}{2}$ x11	500	56.0	12.35
$1\frac{1}{2}$ x $2\frac{1}{2}$	1000	16	4.55	.....	.....	.....	.....

Prices on other sizes furnished on application.

Double Arming Bolts



The double arming bolt, used with four square washers, represents a much more economical means of tying two cross arms together than the old method of a wooden block with a hole through it and a long machine bolt.

Bolts 12 inches to 15 inches have 6-inch thread on each end.

Bolts 16 inches and longer have 8-inch thread on each end.

Prices include four nuts but no washers.

Size In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Size In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
$1\frac{1}{2}$ x12	225	86	\$16.36	$\frac{5}{8}$ x17	150	164	\$29.50
$1\frac{1}{2}$ x13	200	90	16.96	$\frac{5}{8}$ x18	125	171	30.50
$1\frac{1}{2}$ x14	175	93	17.56	$\frac{5}{8}$ x20	100	186	32.50
$1\frac{1}{2}$ x15	250	96	18.16	$\frac{5}{8}$ x22	100	200	34.50
$1\frac{1}{2}$ x16	225	100	18.76	$\frac{5}{8}$ x24	100	214	36.50
$1\frac{1}{2}$ x17	200	103	19.36	$\frac{3}{4}$ x12	100	177	36.40
$1\frac{1}{2}$ x18	200	107	19.96	$\frac{3}{4}$ x14	100	198	39.20
$1\frac{1}{2}$ x20	150	115	21.16	$\frac{3}{4}$ x15	125	209	40.60
$1\frac{1}{2}$ x22	150	123	22.36	$\frac{3}{4}$ x16	125	219	42.00
$\frac{5}{8}$ x12	150	129	24.50	$\frac{3}{4}$ x17	125	230	43.40
$\frac{5}{8}$ x14	150	143	26.50	$\frac{3}{4}$ x18	75	240	44.80
$\frac{5}{8}$ x15	150	150	27.50	$\frac{3}{4}$ x20	75	261	47.60
$\frac{5}{8}$ x16	150	157	28.50	$\frac{3}{4}$ x22	75	282	50.40

Round Washers



Diam. In.	Size Hole In.	Thick-ness Gauge	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1	$\frac{7}{16}$	14	10000	$1\frac{1}{2}$	\$4.46
$1\frac{1}{4}$	$\frac{1}{2}$	14	8000	3	.64
$1\frac{3}{8}$	$\frac{9}{16}$	12	5000	4	.86
$1\frac{3}{4}$	$\frac{11}{16}$	10	2500	8	1.36
2	$\frac{13}{16}$	9	2000	11	1.60

Square Washers



Size Inches	For Bolt Size, In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
2 x2	$\frac{1}{8}$ $\frac{1}{2}$, $\frac{5}{8}$	1500	13	\$1.92
$2\frac{1}{4}$ x $2\frac{1}{4}$	$\frac{3}{16}$ $\frac{5}{8}$, $\frac{3}{4}$	1000	25	3.18
3 x3	$\frac{3}{16}$ $\frac{3}{4}$	400	45	6.04
4 x4	$\frac{3}{16}$ $\frac{3}{4}$, 1	300	84	10.76
5 x5	$\frac{3}{16}$ 1, $1\frac{1}{4}$, $1\frac{1}{2}$	200	128	16.22

No. 1119 Joslyn Steel Pole Steps

With Button Head



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
1119	$\frac{5}{8}$ x9	830	225	\$90.00

Joslyn Steel Pole Steps With Hook Head



Cat. No.	Size In.	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
1116	$\frac{9}{16}$ x 9	350	690	\$65.75
1117	$\frac{5}{8}$ x 9	300	830	81.50
1118	$\frac{5}{8}$ x10	250	920	89.00

Joslyn Heavy Secondary Forks



For use in dead ending heavy wires. Strong in construction.

Cat. No.	Description	Wt. Lbs. per 100	Price per 100
93J	Round Hole	221	\$48.00
95J	Square "	221	48.00

No. 93J

Joslyn Drop Forged Turnbuckles



Hook and Eye Turnbuckle

Turnbuckles are used to take up the slack in guy lines and trolley wire supports. A turnbuckle should be as dependable as the other fixtures employed in guying such as the guy rod, guy clamps and the strand. Joslyn turnbuckles are as dependable as Joslyn guy rods because the eyes and hooks as well as the bodies are drop forged, not welded. The entire turnbuckle including the threads is hot galvanized. The eye and eye, and the hook and eye turnbuckles are furnished in the following sizes, although the hook and hook type can be furnished on special requirements. On the hook and eye type, the hook is furnished with left hand thread. The length listed represents the maximum take up obtainable on each size. For example, on a 1/2x6-inch turnbuckle, the maximum length between center of eyes is 15 inches while the minimum would be 9 inches.

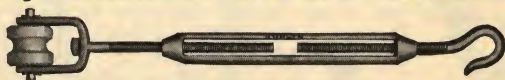
Hook and Eye

Cat. No.	Size In.	Length, In.		Wt., Lbs. per 100	Price per 100
		Max.	Min.		
1021	1½x6	21	15	170	\$154.00
1022	1½x9	27	18	225	190.00
1023	1½x12	33	20¾	300	226.00
1024	5⁄8x9	29½	20½	340	340.00
1025	5⁄8x12	35½	23½	425	270.00
1026	¾x9	29½	20½	460	.....
1027	¾x12	37¼	25¼	510	370.00

Eye and Eye

1228	$\frac{1}{2} \times 6$	21	15	170	\$154.00
1229	$\frac{1}{2} \times 9$	27	18	225	190.00
1230	$\frac{1}{2} \times 12$	$32\frac{3}{4}$	$20\frac{3}{4}$	300	234.00
1231	$\frac{5}{8} \times 9$	$28\frac{1}{2}$	$19\frac{1}{2}$	340	226.00
1232	$\frac{5}{8} \times 12$	$34\frac{1}{2}$	$22\frac{1}{2}$	425	270.00
1233	$\frac{3}{4} \times 9$	$29\frac{1}{2}$	$20\frac{1}{2}$	460	.....
1234	$\frac{3}{4} \times 12$	$36\frac{3}{4}$	$24\frac{3}{4}$	510	370.00

Joslyn Insulated Forks and Turnbuckles



Turnbuckle with Insulated Fork and Hook

For use in taking up the slack in lines and adjusting the tension of electric railway span wires.

The turnbuckle and the eye bolts are drop-forged while the fork is bent from open hearth steel bars. All bolts are $\frac{1}{2}$ inch in diameter.

Cat. No.	Take up In.	Description	Wt. Lbs. per 100	Price per 100
80J	6	Insulated Fork, Each End.....	435	\$320.00
81J	9	" " " "	460	352.00
82J	6	" " and Eye Bolt.....	356	288.00
83J	9	" " " " " "	381	312.00
84J	6	" " " " Hook	341	272.00
85J	9	" " " " " "	366	296.00

Insulated Forks with Machine Bolts



Cat. No.	Description	Wt., Lbs. per 100	Price per 100
91J	With $\frac{1}{2}$ x12-in. Machine Bolt.....	204	\$68.00
92J	" $\frac{1}{2}$ x14 " " "	221	72.00

No. 94J Insulated Knob Screws



Cat. No.	Description	Wt., Lbs. per 100	Price per 100
94J	Insulated Knob Screw.....	35	\$16.00

The Joslyn Pressed Steel Insulator Thread



The Joslyn Pressed Steel Insulator Thread was designed and patented in 1916 and has been used successfully since that time. The salient features of the pressed metal thread are briefly as follows:

Eliminates insulator breakage.

Unaffected by temperature changes.

Insulators may be screwed down tight.

Insulators will not lock and may be easily unscrewed.

Threads formed by die; absolutely uniform.

Holds insulators with varying size thread.

It is almost impossible to manufacture a glass or porcelain insulator with the threads exactly the correct diameter. Some means must be used to take care of the varying sizes, otherwise the insulator is liable to break if too small or will not be tight if too large. The pressed metal thread is designed to take care of this unavoidable imperfection found in screw thread insulators. There is a space between the two halves and the thread being made of spring steel adjusts itself to the diameter of the insulator thread. The pitch on the insulator thread varies very little but the metal thread is designed with a generous factor of safety and at the same time it is impossible to pull the insulator from the pin.

It is a known fact that insulators expand and contract with changes in temperature. This phase of line construction is given serious consideration in some sections of the country where high temperatures followed by sudden rainstorms are prevalent. The Joslyn Pressed Metal Thread takes care of these changes in size and it rarely, if ever, happens that an insulator breaks after it is once installed. Make this test for yourself. Select a glass or porcelain insulator with a 1-inch thread and before installing on the pin, heat to 120° F. and then plunge it in ice water. If the insulator survives this test, you can reasonably state that the insulator is not defective with regard to the quality of material. Now install on a Joslyn Pin with metal threads and repeat the heating and cooling operations.

Insulators may be screwed down tight the full length of the thread without any binding or forcing. This feature eliminates breaking of insulators due to excessive internal force being applied against the inner walls of the insulator. The possibility of injury due to glass insulators breaking while being forced on by the hand is eliminated when Joslyn Pins are used. An insulator never locks on a Joslyn thread. There is no binding action. The pitch of the threads is constant and uniform and, being pressed by dies, is accurate.

The main forging extends upward between the two sections of the thread, which serves as a reinforcing agent. The thread may bend $\frac{1}{8}$ or $\frac{3}{16}$ of an inch until the strain is released and then will spring back in place. This gives the pin a flexible feature, thus taking care of sudden stresses.



Joslyn Single Point Galvanized Brackets

The No. 5 is a popular type for all around work. The No. 6 is for use on corners. For heavier wires and long spans, the No. 7 is used on account of its greater strength. The No. 8 provides an extension away from the wall or pole where it is necessary to clear an obstruction. All types are made of steel channel iron.



Cat. No.	Extension Inches	Size Channel Inches	Mounting Holes Inches	Wt., Lbs. per 100	Price per 100
5J	3 1/2	3/4	5/16	56	\$22.00
6J	3 1/2	3/4	5/16	74	26.00
7J	4 1/2	1	5/16	100	34.00



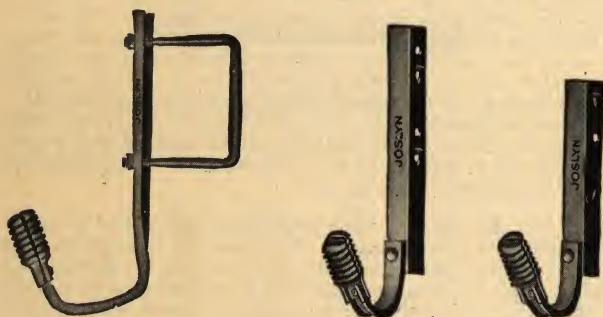
No. 8J



Nos. 11J-12J

Cat. No.	Extension Inches	Size Channel Inches	Mounting Hole Inches	Wt., Lbs. per 100	Price per 100
8J	9	1	5/16 and 9/16	141	\$48.00
11J	3	3/4	5/16	56	15.40
12J	3 1/2	1	7/16	108	34.00

Joslyn Transposition and Cross Arm Brackets



Nos. 18J-19J

No. 24J

No. 25J

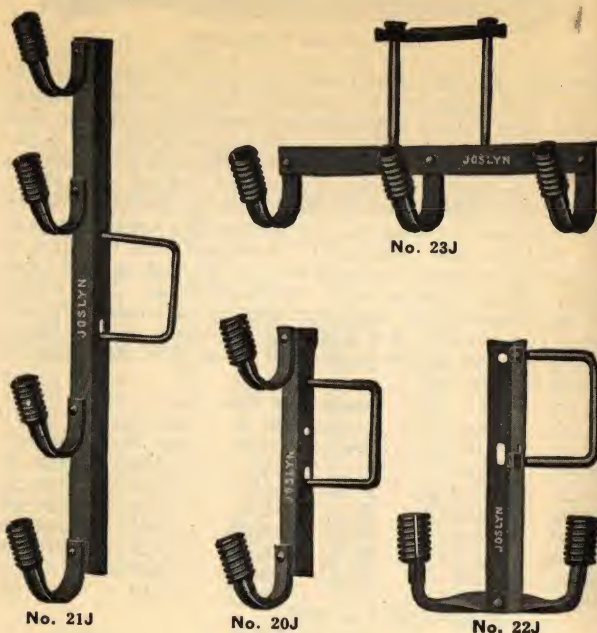
The transposition of overhead lines is a means of eliminating the mutual inductance between two circuits and of balancing the self-inductance of unsymmetrically spaced lines. Transpositions must be made between the generating station and any important load if it is desired to accurately balance inductive effects.

The No. 18 is the most popular type for light wires, while the No. 19 is used for heavier work. U bolts for 3 1/4 x 4 1/4 arms are furnished. If brackets are to be used on any other size arm, the size should be given and bolts to fit any arm up to 4x5 inches can be furnished without additional charge.

The No. 24 is mounted on the arm by means of two 3/8-inch bolts, length depending on the size arm on which bracket is mounted. The No. 25 is mounted by means of one 3/8-inch bolt and is provided with a sharp prong which digs into the wood and prevents the bracket from rotating around the bolt.

Cat. No.	Extension Inches	Size Channel or Angle Inches	Mounting	Wt., Lbs. per 100	Price per 100
18J	3 1/2	3/4	5/16-inch U Bolt	108	\$44.00
19J	3 1/2	1	3/8 " "	170	58.00
24J	3 1/2	1	7/16 " Holes	156	50.00
25J	3	1	7/16 " "	96	38.00

Joslyn Multipoint Transposition Brackets



No. 21J

No. 20J

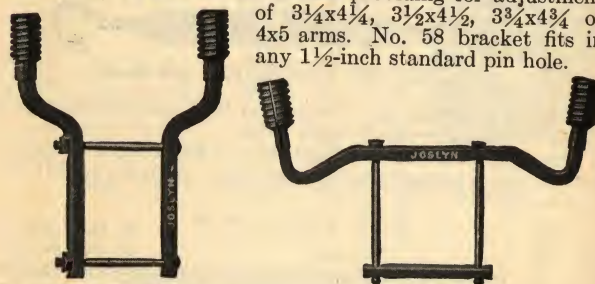
No. 22J

No. 23J

Cat. No.	Wire Spacing Inches	Extension Inches	Size Angle Inches	Mounting	Wt., Lbs. per 100	Price per 100
20J	10	3	1	3/8-inch U Bolt	201	\$68.00
21J	6 1/2 and 10	3	1	3/8 " " "	400	140.00
22J	8	1	1	3/8 " " "	195	84.00
23J	6 1/2	3	1	3/8 " " "	340	78.00

Joslyn Break Arms and Horizontal Brackets

Nos. 55, 56 and 57 are slotted providing for adjustment of 3 1/4 x 4 1/4, 3 1/2 x 4 1/2, 3 3/4 x 4 3/4 or 4x5 arms. No. 58 bracket fits in any 1 1/2-inch standard pin hole.



Nos. 55J-56J

No. 57J

Cat. No.	Wire Spacing Inches	Extension Inches	Size Channel Inches	Mounting	Wt., Lbs. per 100	Price per 100
55J	9	...	3/4	3/8-inch Bolts	160	\$62.00
56J	10	...	1	1/2 " " "	205	78.00
57J	12	...	1	3/8 " " "	240	76.00



No. 58J

No. 59J

58J	12	1	3/4	5/16-inch Holes	200	\$76.00
59J	7	3 1/2	3/4	5/16-inch Holes	125	46.00



No. 60J

60J	6 1/2	3 1/2	3/4	5/16-inch Holes	220	\$70.00
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Joslyn Vertical Brackets

The three point bracket is generally used for light secondaries and service wires. The base or back is made of channel iron which gives great strength without excess weight. The Nos. 30, 31, and 36 are reinforced with a strap providing a wider bearing surface and prevents the bracket from twisting when side strains are imposed. The uprights are also made of channel iron and are riveted to the base. Are hot galvanized and will not rust and cause rust colored rain water to drip from the bracket and discolor the house.



Nos. 36J-38J

Cat. No.	Wire Spacing Inches	Extension Inches
30J	6 1/2	3
31J	6 1/2	3
36J	9	3
37J	6 1/2	3
38J	9	3



No. 37J

Size Channel Inches	Mounting Holes Inches
3/4	5/16
1	5/16
3/4	5/16
3/4	5/16
1	5/16



Nos. 30J, 31J

Wt., Lbs. per 100	Price per 100
260	\$74.00
330	120.00
175	50.00
160	46.00
225	78.00



No. 32J

Cat. No.	Wire Spacing Inches	Extension Inches
32J	6 1/2	3
34J	6 1/2	3
39J	9	3



No. 34J

Size Channel Inches	Mounting Holes Inches
3/4	5/16
3/4	5/16
3/4	5/16



No. 39J

Wt., Lbs. per 100	Price per 100
225	\$70.00
261	80.00
145	46.00



Nos. 40J, 41J and 42J

Cat. No.	Wire Spacing Inches	Extension Inches	Size Channel Inches	Mounting Holes Inches
40J	8	3 1/2	3/4	9/32
41J	12	3 1/2	3/4	9/32
42J	10	3 1/2	1	9/32
44J	9	3	3/4	9/16



No. 44J

Wt., Lbs. per 100	Price per 100
90	\$34.00
110	38.00
143	40.00
186	54.00

No. 2582 Joslyn Corner Suspension Brackets



This type of bracket is used for suspending a string of suspension insulators where there is a bend in the line. Made of 3/8-inch by 2-inch flat steel and hot galvanized after forming.

Cat. No.	Wt., Lbs. per 100	Price per 100
2582	650	\$160.00

No. 2580 Joslyn Gooseneck Brackets

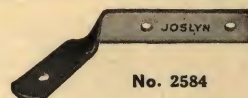
Used for supporting electric light wires on houses and for carrying wires on vertical runs on poles. Made of 5/8-inch round open hearth steel bars with paraffined wood cob.

Cat. No.	Wt., Lbs. per 100	Price per 100
2580	125	\$40.00



Joslyn Corner Brackets

These brackets are mounted on the house by means of wood screws and a telephone knob is rigidly fastened to the end by means of a small machine bolt. Knobs and bolts not included.



No. 2584

Cat. No.	Size In.	Wt., Lbs. per 100	Price per 100
2584	8	65	\$24.00



No. 2585 with 2-groove Telephone Knob

Cat. No.	Size In.	Wt., Lbs. per 100	Price per 100
2585	12	115	\$30.00

Joslyn Transposition Brackets

Transposition brackets Nos. 450 and 451 are made from 5/8x1 1/4-inch steel, and are designed to fit on either a 3 1/4x4 1/4 or 2 3/4x3 3/4 arm. Pins and carriage bolts are not included in the price.

Cat. No.	For Arm Inches	Wt., Lbs. per 100	Price per 100
450	3 1/4x4 1/4	235	\$40.00
451	2 3/4x3 3/4	235	40.00



Joslyn Pole Seats

Hot Galvanized

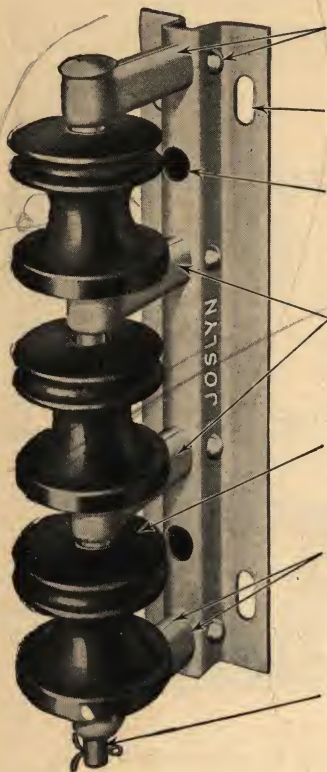
Frame and braces are made of 1x1 1/2-inch channel iron and the cross bars on the seat are of 3/8-inch square bars with the edge up. Each brace is secured to the pole by means of two 1/2x1-inch lag screws and the frame by means of 5/8-inch lag screws. They are designed to fit a 10-inch diameter pole but may be fitted to 8 to 12-inch diameter poles.



Cat. No.	Width, Seat Inches	Wt., Lbs. per 100	Price per 100
285	15	1400	\$240.00
287	12	1260	240.00



Smalley Pressed Steel Secondary Racks



The two parts are rigidly engaged and secured by means of the rivet. Will never work loose. Base made of pressed steel $3\frac{3}{4}$ inches wide.

Slotted holes for lag screw mounting.

Mounting holes when machine bolts are used—no washers necessary.

Arms made of one piece of steel pressed into shape. Rounded on top and bottom. Insulated wires may be pulled over this smooth surface without damaging the insulation.

High grade porcelain made by the plastic process.

When galvanized, the spelter flows in all the seams, forming an unbroken surface over the entire rack.

A $\frac{1}{2}$ -inch bolt holds insulators in place.

Made of pressed steel throughout, is light in weight and exceptionally strong and rigid. The base is pressed from a flat piece of steel, forming a ridge or channel with apertures punched to receive the insulator supports. Slotted holes are provided for mounting to the house or pole by lag screws and holes in the channel section for mounting to the pole by means of through bolts. The arms are pressed into a channel shape and bent back on itself with the edges meeting and forming a seam. The outer end is flared out to accommodate the bolt which holds the insulators in place. The other end is secured to the base by means of a rivet and furnishes a solid joint.

The holding capacity is not dependent on friction but there is a rigid inter-engagement of the parts. When mounted on poles, linemen sometimes use secondary racks for a step. Few racks will stand abuse of this nature, but the new pressed steel rack will stand a load three times heavier than the average man without showing signs of deflection or twisting.

The supporting arms have a smooth surface both on top and bottom so that insulated wires may be pulled over the arms without danger of stripping off the insulation. This rack may be mounted with either end up as there is no one way to install it.

All racks are rigidly inspected before shipment is made.

Shipped in bundles. Insulators are shipped separately in barrels or boxes.

Extended Back Type

The Smalley Secondary Rack with the extended back makes it possible to mount a secondary rack on the pole by means of machine bolts without first removing the insulators. When several racks are to be mounted, it will be found to be more economical to install the extended back type. The base of the rack is strong enough to stand any pull the wires may exert regardless of the fact that the fastening bolts are placed at the extreme ends of the rack.

Both the plain and the extended back type are furnished in a variety of sizes to meet all the requirements of secondary distribution.

Smalley Secondary Racks

Secondary racks take the place of secondary cross-arms. On them, the party secondary circuits are strung with the wires in vertical instead of horizontal alignment, thus allowing the taking off of service wires without crossing of wires and without the aid of buck arms or spreader brackets.



Cat. No.	No. of Wires	Wire Spacing Inches	Length Over All Inches	Wt., Lbs. per 100	Price per 100
67	2	4	9 $\frac{3}{4}$	531	\$104.42
167	2	6	11 $\frac{3}{4}$	610	125.15
267	2	8	13 $\frac{3}{4}$	663	130.55
367	2	12	17 $\frac{3}{4}$	754	151.40
68	3	4	13 $\frac{3}{4}$	763	156.65
168	3	6	17 $\frac{3}{4}$	922	191.65
268	3	8	21 $\frac{3}{4}$	1023	218.70
69	4	4	17 $\frac{3}{4}$	988	202.60
169	4	6	23 $\frac{3}{4}$	1237	248.00

Smalley Secondary Racks

Cat. No.	No. of Wires	Wire Spacing Inches	Length Over All Inches	Wt., Lbs. per 100	Price per 100
1067	2	4	13 $\frac{1}{4}$	589	\$120.30
1167	2	6	15 $\frac{1}{4}$	668	140.70
1267	2	8	17 $\frac{1}{4}$	721	148.75
1367	2	12	21 $\frac{1}{4}$	812	155.20
1068	3	4	17 $\frac{1}{4}$	821	163.20
1168	3	6	21 $\frac{1}{4}$	980	191.75
1268	3	8	25 $\frac{1}{4}$	1081	225.30
1069	4	4	21 $\frac{1}{4}$	1046	209.15



Joslyn Light Secondary Racks

This rack is used to carry light secondaries where the wire is not larger than No. 2, and they may be used for house brackets where it is desired to string the wires in a vertical position. For heavier work on pole distribution, regular secondary racks are recommended.

Racks are shipped complete with insulators.



Cat. No.	No. of Wires	Wire Spacing Inches	Length Over All Inches	Wt., Lbs. per 100	Price per 100
660	1	0	6	125	\$26.40
667	2	6	12	250	59.05
668	3	3	12	310	69.35
669	3	6	18	375	87.10
670	5	3	18	495	113.45

Joslyn Distributing Racks

These racks are used for distributing twisted pair telephone wires. They are mounted on the pole or house by means of $\frac{1}{2}$ -inch lag screws. The base is made of $1\frac{1}{4} \times \frac{5}{8}$ -inch channel iron, hot galvanized. Shipped complete with knobs as shown in the illustration.

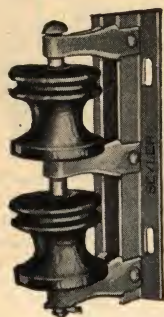
Cat. No.	No. of Knobs	Length Over All Inches	Mounting Hole Inches	Wt., Lbs. per 100	Price per 100
73	4	10	$\frac{9}{16}$	225	\$100.00
74	6	13	$\frac{9}{16}$	300	132.00
75	8	16	$\frac{9}{16}$	475	164.00



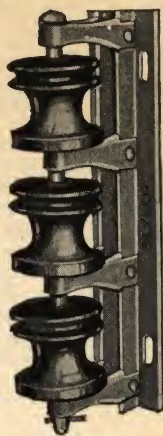


Seyler Secondary Racks

Hot Galvanized



No. 67



No. 68

Seyler Secondary Racks embody several improvements over other types of construction. The extending arms are riveted on the outside of the supporting angles with the ends bearing against the flat of the angle. This gives maximum strength in all directions. The extending arms are pressed from sheet steel, rounded to avoid damage to the insulated wires and split so as to prevent collection of water, making it immaterial how the rack is mounted on pole.

Racks with 2-inch extension, assembled as illustrated, can be put up without removing spools.

Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
67	10	560	\$87.83	167	10	570	\$97.43
68	10	800	123.93	168	10	810	133.90
69	10	1020	156.78	169	10	1035	166.75
70	10	1240	189.63	170	10	1255	199.60
71	10	700	112.83	171	10	710	122.80
72	10	1040	167.43	172	10	1050	177.40

Seyler Utility Wire Holders



No. 526



No. 510



No. 501

The utility wireholder is used principally on houses but may be put to a variety of uses. On straight runs the wire is strung thru the hole and the wires tied at the terminal bracket. Several tie wires are thus eliminated with a consequent saving in labor. The insulator has no sharp edges to injure the insulation on the wire and is held in place by means of a brass cotter pin. These wireholders will stand a strain of 450 pounds, and will accommodate up to No. 3 wire. The insulators have a wet arc-over voltage of 2000 volts, which provides a sufficient factor of safety for all secondary voltages.

The No. 503 is used in the center holes of No. 529, making a bracket similar to the No. 536 except insulators will be spaced 4½ inches apart on the centers.

Cat. No.	No. of Wires	Wire Spacing Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
501	1	..	50	115	\$19.90
503	1	..	50	85	18.00
510	1	..	50	100	18.00
526	2	6	25	205	39.20
529	2	9	25	225	39.75
536	3	6	25	275	59.50
5022	Insulators Only		100	95	12.00

Seyler Wire Holders

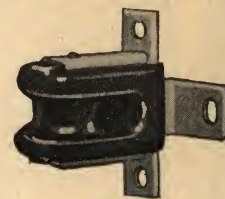
Hot Galvanized

Seyler Wire Holders have a wide pressed steel base, will stand a minimum strain of 800 pounds, and will accommodate up to No. 3 size wires.

Insulators have a wet arc over voltage of 2,000 volts, making a good factor of safety for all secondary voltages.



No. 501



No. 510

Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
501	50	80	\$17.50	503	25	80	\$19.38
*502	50	45	8.68	510	50	95	19.38

*Insulator only.



No. 526



No. 529

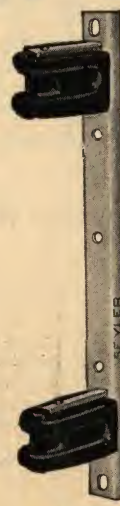


No. 534

Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
526	25	175	\$38.75	534	25	255	\$55.63
529	25	205	41.25	536	25	275	61.88



No. 1526



No. 1529



No. 1534

Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Cat. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1526	25	145	\$36.75	1534	25	225	\$52.63
1529	25	175	39.25	1536	25	245	58.88



Joslyn Transposition Corner and Duplex Pins

Transposition pins have an extra long thread for use with transposition insulators. Reinforced with $\frac{3}{8}$ -inch bolt which extends through the entire length of the pin. An extra large washer is provided so that the nut may be tightened and the pin securely fastened in place. Duplex pins are threaded on both ends.



No. 1785

Description	LOCUST			PAINTED OAK		
	Cat. No.	Wt., Lbs. per 1000	Price per 1000	Cat. No.	Wt., Lbs. per 1000	Price per 1000
1 $\frac{1}{4}$ x 9 Trans.	1782	400	\$40.00	1790	350	\$24.00
1 $\frac{1}{2}$ x10 "	1783	500	70.00	1791	450	34.00
1 $\frac{1}{4}$ x 8 Corner	1784	625	140.00	1792	600	120.00
1 $\frac{1}{4}$ x 9 "	1785	775	150.00	1793	725	140.00
1 $\frac{1}{4}$ x11 $\frac{1}{2}$ Duplex	1786	500	80.00	1794	450	42.00
1 $\frac{1}{2}$ x12 "	1787	650	120.00	1795	600	60.00

Joslyn Wood Top Steel Pins

Cat. Nos.	Locust Tops	Oak Tops	Diam. of Top In.	Diam. of Base In.	Legth. of Wood Top In.	Size of Bolt In.	Wt., Lbs. per 100	Price per 100
910	1310	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$ x 5 $\frac{1}{2}$	55	\$19.00
911	1311	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$ x 9 $\frac{1}{2}$	77	23.20
920	1320	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$ x 6 $\frac{1}{2}$	70	20.60
921	1321	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$ x10 $\frac{1}{2}$	90	24.80
922	1322	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$ x11 $\frac{1}{2}$	97	25.80
930	1330	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	4	5 $\frac{1}{8}$ x 9	117	30.00
940	1340	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	4 $\frac{1}{2}$	5 $\frac{1}{8}$ x10 $\frac{1}{2}$	132	33.00
950	1350	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{2}$	5 $\frac{1}{8}$ x10 $\frac{1}{2}$	142	33.60
960	1360	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	6 $\frac{1}{2}$	5 $\frac{1}{8}$ x12 $\frac{1}{2}$	165	36.60
970	1370	1 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	8	5 $\frac{1}{8}$ x 9	148	34.20
971	1371	1 $\frac{3}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	8	5 $\frac{1}{8}$ x14	188	41.00
980	1380	1 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{3}{4}$	9	5 $\frac{1}{8}$ x10 $\frac{1}{2}$	172	39.20
981	1381	1 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{3}{4}$	9	5 $\frac{1}{8}$ x16	217	46.00
990	1390	1 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{3}{4}$	9	3 $\frac{1}{4}$ x10 $\frac{1}{2}$	225	51.00
991	1391	1 $\frac{3}{8}$	2 $\frac{3}{4}$	2 $\frac{3}{4}$	9	3 $\frac{1}{4}$ x16	290	61.00



No. 1311

Joslyn Wood Top Porcelain Base Pins

Cat. No.	Wood Top Diam. In.	Wood Top Length In.	Porcelain Base Diam. In.	Porcelain Base Length In.	Size of Bolt In.	Wt., Lbs. per 100	Price per 100
1410	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	1 $\frac{1}{2}$ x 5 $\frac{1}{2}$	85	\$24.20
1411	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	1 $\frac{1}{2}$ x 9 $\frac{1}{2}$	110	28.00
1420	1	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3	1 $\frac{1}{2}$ x 6 $\frac{1}{2}$	120	29.60
1421	1	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3	1 $\frac{1}{2}$ x10 $\frac{1}{2}$	145	34.20
1422	1	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3	1 $\frac{1}{2}$ x11 $\frac{1}{2}$	150	35.00
1440	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{8}$ x10 $\frac{1}{2}$	160	37.40
1450	1 $\frac{3}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	5 $\frac{1}{8}$ x10 $\frac{1}{2}$	190	42.60
1460	1 $\frac{3}{8}$	3	3	3	5 $\frac{1}{8}$ x12 $\frac{1}{2}$	225	48.40
1470	1 $\frac{3}{8}$	3	3 $\frac{1}{2}$	5	5 $\frac{1}{8}$ x 9	315	45.60
1471	1 $\frac{3}{8}$	3	3 $\frac{1}{2}$	5	5 $\frac{1}{8}$ x14	360	62.40
1480	1 $\frac{3}{8}$	3	3 $\frac{1}{2}$	6	5 $\frac{1}{8}$ x10 $\frac{1}{2}$	400	67.60
1481	1 $\frac{3}{8}$	3	3 $\frac{1}{2}$	6	5 $\frac{1}{8}$ x16	425	74.20
1490	1 $\frac{3}{8}$	3	3 $\frac{1}{2}$	6	3 $\frac{1}{4}$ x10 $\frac{1}{2}$	440	79.20
1491	1 $\frac{3}{8}$	3	3 $\frac{1}{2}$	6	3 $\frac{1}{4}$ x16	500	89.20



No. 1411

Joslyn Cast Iron Base Pins

This pin is the same as the porcelain base pin except it is supplied with a cast iron base. This pin is exceptionally strong and will stand an unusual strain. Sometimes used on corners in a line equipped with standard wood pins.

Cat. No.	Wood Top Diam. In.	Wood Top Length In.	Cast Iron Base Diam. In.	Cast Iron Base Length In.	Size of Bolt In.	Wt., Lbs. per 100	Price per 100
1495	1	2 $\frac{1}{4}$	2	2 $\frac{1}{4}$	1 $\frac{1}{2}$ x5 $\frac{1}{2}$	80	\$25.20
1496	1	2 $\frac{1}{4}$	2	2 $\frac{1}{4}$	1 $\frac{1}{2}$ x9 $\frac{1}{2}$	105	29.20



No. 1496

Joslyn Wood Brackets and Pole Steps

Joslyn Wood Brackets are manufactured from oak, thoroughly seasoned and dried, which eliminates shrinkage after the bracket is installed. The top or threaded portion is accurately turned to size and the threads are cleanly cut. All brackets are threaded four threads to the inch, tapering $\frac{1}{8}$ inch, to one inch in length. The length of the thread on all sizes is 2 $\frac{1}{4}$ inches. Spikes are usually used for mounting the brackets and pole steps and $\frac{5}{8}$ -inch diameter holes are provided to accommodate the spikes.



Bracket



Pole Step

All sizes are furnished painted or unpainted, whichever is ordered except the Western Union size bracket, which is furnished unpainted only. Brackets and pole steps are wired in bundles of twenty or twenty-five for shipment.

Cat. No.	Description	Size Inches	Wt., Lbs. per 100	Price per 1000
2550-4	Bracket	1 $\frac{1}{2}$ x2 x10	500	\$33.00
2551-1	"	1 $\frac{1}{2}$ x2 x12	700	37.00
2552-3	"	1 $\frac{1}{2}$ x2 $\frac{1}{4}$ x12	800	40.00
2553-L.D.	"	1 $\frac{5}{8}$ x2 x12	800	44.00
2554-2	"	2 x2 $\frac{1}{4}$ x12	1000	56.00
2555-W.U.	"	2 x2 $\frac{3}{8}$ x12	1100	56.00
New W.U. Std.	"	2 x2 $\frac{3}{4}$ x12	1250	62.00
2556	Pole Step	1 $\frac{1}{2}$ x2 x 7	500	28.00

Joslyn Ridge Irons

The ridge iron is fastened to top of pole by lag screws and is used to carry an extra wire.

No. 1 is punched to take $\frac{3}{8}$ -inch lag screws and $\frac{1}{2}$ -inch pins.

No. 2 is punched to take $\frac{1}{2}$ -inch lag screws and $\frac{5}{8}$ -inch pins.

No. 3 is punched to take $\frac{1}{2}$ -inch lag screws and $\frac{3}{4}$ -inch pins.

Pins or lags are not included in price of ridge irons.



Cat. No.	Size of Stock, In.	Height In.	Size of Pole, In.	Wt., Lbs. per 100	Price per 1000
1203	1 $\frac{1}{8}$ x2 $\frac{1}{4}$	7	6	140	\$52.00
1204	3 $\frac{1}{8}$ x2 $\frac{3}{4}$	8	7	300	104.00
1205	1 $\frac{1}{4}$ x2 $\frac{3}{4}$	8 $\frac{1}{4}$	7	450	148.00

Joslyn Clamp Pins

Some engineers are firm believers in the clamp pin principally for the reason that it strengthens the cross arm rather than weakens it as is the case when holes are bored to receive the shank of other types of pin. The Joslyn pin is drop forged and is much more reliable than malleable iron as it will not break under any conditions. Under unusual strains it may bend slightly. It is exceptionally light in weight and is an example of careful designing and less excess metal. Joslyn pressed metal threads are furnished and all is thoroughly hot galvanized after being manufactured. The lower hole is slotted to take the different sizes of cross arm straps.

Cat. No.	Wt., Lbs. per 100	Price per 100
1220	125	\$35.00



Drop Forged Straps for Clamp Pins

Cat. No.	Size Arm Inches	Wt., Lbs. per 100	Price per 100
1221	3 $\frac{1}{4}$ x4 $\frac{1}{4}$	90	\$15.00
1222	3 $\frac{1}{2}$ x4 $\frac{1}{2}$	100	16.50
1223	3 $\frac{3}{4}$ x4 $\frac{3}{4}$	110	18.00
1224	4 x5	125	19.00



Joslyn Western Union Pins



No. 1191



No. 1190



No. 1195

Joslyn Western Union Pins are forged from open hearth steel and are made in accordance with the Western Union specifications.

The wood top is accurately turned to size and is made of thoroughly air dried oak, impregnated with paraffine to exclude moisture.

The tops are assembled on the pins by a specially designed machine which locates any tops that may be defective.



No. 1193



Nos. 1194-1196

The pin is equipped with one square nut and a round washer, clipped on one side to permit locking the nut by driving a nail into the arm. This pin has the combination of desirable features which every engineer is looking for, namely, great strength, because it is forged from a solid bar, and minimum insulator breakage, because the wood cob provides a cushion effect.

Another feature of the Joslyn Pin worthy of mention is the fact that the wood cob will not slip off the pin but is firmly screwed on and cannot be unscrewed without the aid of a pipe wrench.

Short Shank Western Union Pins are designed for use on transposition brackets, steel cross arms and ridge irons. Numbers 1195 and 1196 have a cob with an extra long thread for use with transposition insulators.

Furnished either plain or galvanized.

Cat. No.	Diam. Inches	LENGTH, INCHES		Wt., Lbs. per 100	Price per 100
		Above Shoulder	Below Shoulder		
1190	1/2	4 1/4	5	73	\$12.76
1191	5/8	4 3/4	5	110	19.50
1193	1/2	4	1	48	14.30
1194	1/2	5	1	54	18.68
1195	5/8	4	1	65	20.90
1196	5/8	5	1	75	26.80

Joslyn Forged Steel Pins for Low Voltage Lines



No. 222



No. 231

The desirable feature of the steel pin is that the wood arms are not appreciably weakened by drilling of the holes as is the case of wood pins. The serious objection in the past to steel pins has been the lack of some suitable method of securing the insulator to the pin but the Joslyn pressed metal thread has solved the problem.

Long Shank for Wood Arms

Cat. No.	Diam. In.	LENGTH IN INCHES			Wt., Lbs. per 100	Price per 100
		Above Shoulder	Below Shoulder	Total		
200	1/2	4 3/4	4 3/4	9 1/2	80	\$22.50
201	1/2	4 3/4	5 1/2	10 1/4	86	25.50
202	5/8	4 3/4	4 3/4	9 1/2	115	33.00
203	5/8	4 3/4	5 1/2	10 1/4	122	35.25
204	5/8	4 3/4	6 1/2	11 1/4	129	37.50
205	5/8	6	4 3/4	10 3/4	126	36.00
206	5/8	6	5 1/2	11 1/2	132	37.50
207	5/8	6	6 1/2	12 1/2	140	39.00
208	3/4	4 3/4	5 3/4	10 1/2	177	51.00
209	3/4	6	5	11	183	50.25
210	3/4	6	5 3/4	11 3/4	192	54.00
211	3/4	6	6 3/4	12 3/4	205	55.50

Short Shank for Steel Arms

220	1/2	4 3/4	1 1/4	6	54	\$22.05
221	5/8	4 3/4	1 1/4	6	85	30.00
222	5/8	6	1 1/4	7 1/4	96	32.25
223	3/4	4 3/4	1 1/4	6 1/4	107	40.50
224	3/4	6	1 1/2	7 1/2	123	43.50

Lag Screw Type for Poles

230	1/2	4 3/4	3	7 3/4	65	\$22.05
231	5/8	4 3/4	3	7 3/4	88	34.50

Joslyn Forged Steel Pins for Medium Voltage Lines



No. 320



No. 321

The pin is forged from open hearth steel and is exceptionally strong and rugged. The large bearing surface on the arm adds to its strength. The pressed metal thread is electrically welded to the top of the pin. Insulators will not break on pin due to heat expansion, as the pressed metal thread has sufficient spring to allow for expansion and contraction.

Furnished with 1 or 1 3/8-inch thread for wood or steel arms. All pins are hot galvanized.

Flat Base for Wood Arm

Pressed Metal Thread

Cat. No.	Wt., Lbs. per 100	Lead Thread	Cat. No.	Wt., Lbs. per 100	Price per 100
300	150	350	185		\$75.00
302	160	352	195		82.00
304	145	354	180		70.00
320	323	370	408		90.00
323	361	373	446		110.00
326	400	376	485		130.00

Curved Base for Wood Arm

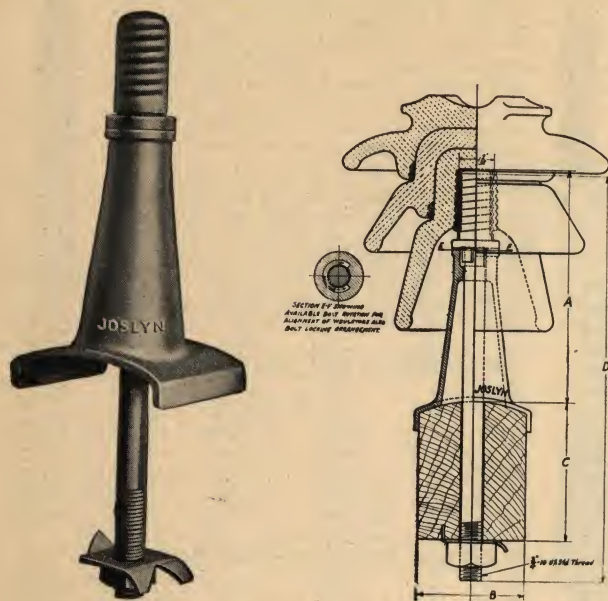
4 1/2	5 1/2	2 1/2	5/8	1	1 1/2	301	150	351	185	\$75.00
4 1/2	6 1/2	2 1/2	5/8	1	1 1/2	303	160	353	195	82.00
4 1/2	4 3/4	2 1/2	5/8	1	1 1/2	305	145	355	180	70.00
6	6 1/2	3	3/4	1 3/8	2 1/2	321	323	371	408	90.00
7	6 1/2	3	3/4	1 3/8	2 1/2	324	361	374	446	110.00
8	6 1/2	3	3/4	1 3/8	2 1/2	327	400	377	485	130.00

Flat Base for Steel Arm

4 1/2	1 1/2	2 1/2	5/8	1	1 1/4	306	115	356	150	\$68.00
6	1 3/4	3	3/4	1 3/8	1 1/2	322	263	372	348	85.00
7	1 3/4	3	3/4	1 3/8	1 1/2	325	301	375	385	104.00
8	1 3/4	3	3/4	1 3/8	1 1/2	328	340	378	425	120.00



Joslyn High Tension Insulator Pins



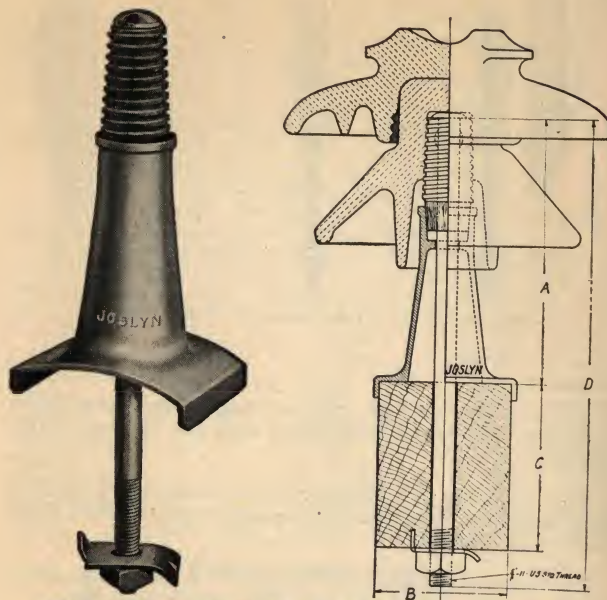
400 Series Pin for Wood Arm Construction

Consists of a one-piece forged steel bolt, malleable iron base, nut and lock washer, all hot galvanized, and a thin sheet metal thimble of a non-corrosive material. The separable thimble, which is usually cemented into the insulator at the factory, permits ready replacement of insulators and insures a tight fit between insulator and pin without binding and exerting tension on insulator. Due to the small volume of metal in thimble, all possibility of damage to the insulator by heat expansion is eliminated. Sufficient clearance is allowed between the thimble and the bolt to prevent any expansion of the bolt from exerting destructive pressure on the insulator.

Cat. No.	Type of Cross Arm	DIMENSIONS IN INCHES				Packed Wt., Lbs. per 100	Price per 100
		A	B	C	D		
460	3-inch Flat or Angle...	6	...	7 1/2	350	\$135.00	
461	3 1/4 x 4 1/4-inch Wood...	6	3 1/4	4 1/4	11 1/2	400	143.00
462	3 1/2 x 4 1/2 " " ...	6	3 1/2	4 1/2	11 1/2	420	144.00
470	3-inch Flat or Angle...	7	...	8 1/2	370	147.00	
471	3 1/4 x 4 1/4-inch Wood...	7	3 1/4	4 1/4	12 1/2	430	160.00
472	3 1/2 x 4 1/2 " " ...	7	3 1/2	4 1/2	12 1/2	450	162.00
473	3 3/4 x 4 3/4 " " ...	7	3 3/4	4 3/4	13 1/2	470	164.00
480	3-inch Flat or Angle...	8	...	9 1/2	390	157.00	
482	3 1/2 x 4 1/2-inch Wood...	8	3 1/2	4 1/2	13 1/2	480	172.00
483	3 3/4 x 4 3/4 " " ...	8	3 3/4	4 3/4	14	500	176.00
484	4x5-inch Wood.....	8	4	5	14	520	182.00
490	3-inch Flat or Angle...	9	...	10 1/2	410	190.00	
492	3 1/2 x 4 1/2-inch Wood...	9	3 1/2	4 1/2	14 1/2	510	200.00
493	3 3/4 x 4 3/4 " " ...	9	3 3/4	4 3/4	15	530	205.00
494	4x5-inch Wood.....	9	4	5	15	550	210.00

Nos. 482-A, 483-A and 484-A pins which are the same as Nos. 482-483 and 484 excepting they have a square base for use on flat top wood arms, can also be furnished.

Joslyn High Tension Pins



400-B and 400-C Series Pin for Wood Arm Construction

Some engineers are firm believers in the use of wood threads on insulator pins. The 400 series Joslyn pins are also furnished with a locust wood top illustrated above.

When this pin is used it is not necessary to cement the separable zinc thimble into the insulator but the insulator is screwed directly on the wood thread.

The bolt which extends from the bottom of the arm to the extreme top of the pin is 5/8-inch diameter and is furnished with pins under the head to prevent the bolt from turning within the wood top when the nut is being tightened.

Samples of this pin installed on a section of a cross arm will be furnished on request.

Cat. No.	Type of Cross Arm	DIMENSIONS IN INCHES				Packed Wt., Lbs. per 100	Price per 100
		A	B	C	D		
460B	3-inch Flat or Angle.	6	...	7 1/2	350	\$135.00	
461B	3 1/4 x 4 1/4-inch Wood.	6	3 1/4	4 1/4	11 1/2	400	143.00
462B	3 1/2 x 4 1/2 " " .	6	3 1/2	4 1/2	11 1/2	420	144.00
470B	3-inch Flat or Angle.	7	...	8 1/2	370	147.00	
471B	3 1/4 x 4 1/4-inch Wood.	7	3 1/4	4 1/4	12 1/2	430	160.00
472B	3 1/2 x 4 1/2 " " .	7	3 1/2	4 1/2	12 1/2	450	162.00
473B	3 3/4 x 4 3/4 " " .	7	3 3/4	4 3/4	13 1/2	470	164.00
480B	3-inch Flat or Angle.	8	...	9 1/2	390	157.00	
482B	3 1/2 x 4 1/2-inch Wood.	8	3 1/2	4 1/2	13 1/2	480	172.00
483B	3 3/4 x 4 3/4 " " .	8	3 3/4	4 3/4	14	500	176.00
484B	4x5-inch Wood.....	8	4	5	14	520	182.00
490B	3-inch Flat or Angle.	9	...	10 1/2	410	190.00	
492B	3 1/2 x 4 1/2-inch Wood.	9	3 1/2	4 1/2	14 1/2	510	200.00
493B	3 3/4 x 4 3/4 " " .	9	3 3/4	4 3/4	15	530	204.00
494B	4x5-inch Wood.....	9	4	5	15	550	210.00

Nos. 482-C, 483-C and 484-C pins which are the same as Nos. 482-B, 483-B and 484-B except that they have a square base for use on flat top wood arms, can also be furnished.



Seyler Forged Steel High Tension Pins

The 500 series pin is made of one forging, there being no welds or assembly of parts. They are made in all sizes to meet all conditions of high tension transmission lines.

The pin is so designed that when a strain is imposed to a degree where the pin will bend, the deflection is uniform throughout its entire length. Under severe strains, these pins may bend but will not break because they are made of a solid block of steel forged into shape by the latest approved methods.

This pin can also be furnished with a lead thread cast on the top instead of the separable thimble.



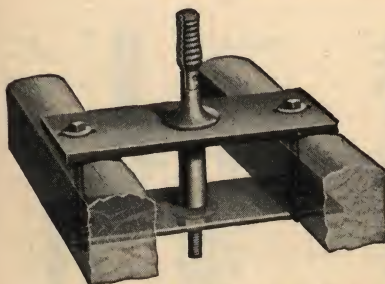
No. 561



No. 507

Cat. No.	Diam. In.	LENGTH, INCHES			Wt., Lbs. per 100	Price per 100
		Above Shoulder	Below Shoulder	Over All		
504	3/4	4	6 1/2	10 1/2	285	\$76.00
505	3/4	5	6 1/2	11 1/2	318	82.30
505 1/2	3/4	5 1/2	6 1/2	12	334	84.00
506	3/4	6	6 1/2	12 1/2	351	88.00
507	3/4	7	6 1/2	13 1/2	417	106.00
508	3/4	8	6 1/2	14 1/2	445	112.80
509	3/4	9	6 1/2	15 1/2	515	122.00
510	3/4	10	6 1/2	16 1/2	568	131.90
511	3/4	11	6 1/2	17 1/2	652	146.00
512	3/4	12	6 1/2	18 1/2	700	153.30
513	3/4	13	6 1/2	19 1/2	746	159.30
514	3/4	14	6 1/2	20 1/2	825	172.00
Short Shank for Steel Arms						
554	3/4	4	1 3/4	5 3/4	215	\$62.50
555	3/4	5	1 3/4	6 3/4	247	69.00
555 1/2	3/4	5 1/2	1 3/4	7 1/4	263	70.80
556	3/4	6	1 3/4	7 3/4	280	74.80
557	3/4	7	1 3/4	8 1/4	346	92.70
558	3/4	8	1 3/4	9 3/4	394	99.50
559	3/4	9	1 3/4	10 3/4	444	108.80
560	3/4	10	1 3/4	11 3/4	496	118.50
561	3/4	11	1 3/4	12 3/4	582	132.50
562	3/4	12	1 3/4	13 3/4	628	140.00
563	3/4	13	1 3/4	14 3/4	675	146.00
564	3/4	14	1 3/4	15 3/4	753	158.70

Joslyn Double Arming Plates



No. 1603, Plates Installed on Arms

Where poles are double armed on high tension lines, it is necessary to provide some means of mounting one insulator so that the full strength of both arms will be employed. Several large operating companies use an arrangement illustrated. The upper plate is 1/2 inch thick and the lower one, 1/4 inch thick. A

pipe spacer which is the same length as the height of arm, is placed between the two plates. This arrangement is rigid in construction and has proved to be efficient. When ordering, specify length of pipe spacer and size of pole.

Nos. 1600 to 1602 are one piece and are mounted on top of the arm. When the single plates are used the plate extends beyond the arms and two insulators are used.

Cat. No.	Length Inches	Wt., Lbs. per 100	Price per 100
1600	24	1300	\$260.00
1601	30	1565	300.00
1602	18	975	196.00
1603 (2 Pieces)	15	1300	280.00

Joslyn Pole Top Pins

The pipe pins illustrated are generally selected for suspending lines carrying the higher voltages because of their great strength and comparative light weight. They are made of extra heavy steel pipe with the ends forged and are hot galvanized after forming. The mounting holes are 1 1/8-inch in diameter and the pins should be mounted with 5/8-inch machine bolts.

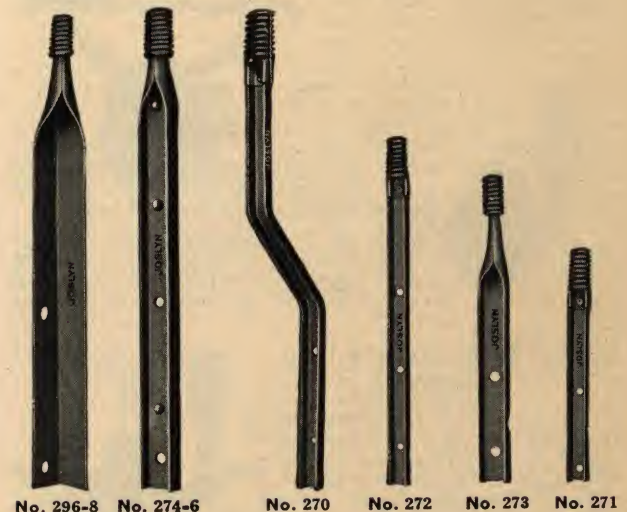
Nos. 280 to 282 inclusive are equipped with cast lead threads.

The advantages of lead threads is apparent when it is taken into consideration that a great percentage of the mechanical failures in multipart high tension insulators is due to the inability of the insulator to absorb the excessive strains caused by expansion and contraction of the solid steel pin tops.

Lead, being a comparatively soft metal does not exert enough internal force to place the insulator under a critical mechanical strain when expanded due to increased temperature. Lead threads have been successfully used for many years by large operating companies throughout the entire country.

Cat. No.	Size Pipe In.	Length Over All In.	Spacing Between Holes, In.	Style of Top Thread, In.	Wt., Lbs. per 100	Price per 100
280	1 1/4	18	8	1 3/8 Lead	386	\$70.00
281	1 1/4	24	8	1 3/8 "	498	85.00
282	1 1/4	36	10	1 3/8 "	722	120.00
283	1 1/4	18	8	1 3/8 Sep. Thimble	336	65.00
284	1 1/4	24	8	1 3/8 "	448	80.00
398	1 1/2	23 1/2	9	1 3/8 Wood	475	115.00
286	1 1/4	36	10	1 3/8 Sep. Trimble	672	125.00
288	1 1/2	29 1/2	10 1/2	1 3/8 Wood	615	140.00
289	1 1/2	35 1/2	10 1/2	1 3/8 "	750	170.00

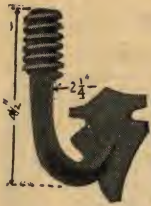
Joslyn Pole Top Pins



Cat. No.	Size Channel or Angle In.	Length In.	Spacing Between Holes, In.	Diam. Thread In.	Wt., Lbs. per 100	Price per 100
270	1 x 1 1/2	18	4	1	140	\$64.00
271	1 x 1 1/2	12	4	1	74	38.00
272	1 x 1 1/2	18	4	1	140	64.00
273	1 1/2 x 3/4	15	4	1	163	48.00
274	1 3/4 x 5/8	18	8	1 3/8	370	132.00
275	1 3/4 x 5/8	25	8	1 3/8	480	164.00
276	1 3/4 x 5/8	36	10	1 3/8	725	232.00
296	2x2x3/8	18	8	1	370	85.00
297	2x2x3/8	24	8	1	490	100.00
298	2x2x3/8	36	10	1	740	120.00



No. 40 Malleable Iron Brackets



Designed for a low priced malleable iron hook. Is fastened either by spikes or screws, especially adapted for light work. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
40	90	\$36.00

No. 48 Malleable Iron Brackets



A short bracket for roofs, tops of cross-arms, etc. Can be firmly fastened with three spikes or screws. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
48	60	\$24.00

No. 41 Malleable Iron Brackets

Can be fastened with spikes or screws. Hollow, double-slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
41	100	\$40.00



No. 49 Malleable Iron Brackets

Suitable for roofs, tops of cross-arms, etc. Fastens with three spikes or screws. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
49	78	\$30.00



No. 42 Malleable Iron Brackets

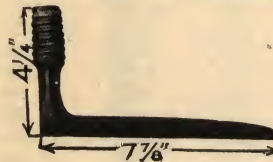
Can be fastened with spikes or screws. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
42	75	\$28.00



No. 10 Malleable Iron Brackets

This bracket is hollow with double slotted insulator head.

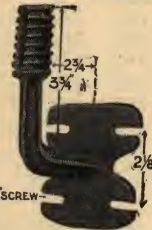


Cat. No.	Weight Pounds per 100	Price per 100
10	80	\$34.00

No. 43 Malleable Iron Brackets

Can be fastened with four spikes or screws instead of three. Hollow, double slotted insulator head.

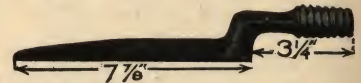
Cat. No.	Weight, Pounds per 100	Price per 100
43	100	\$34.00



No. 11 Malleable Iron Brackets

Hollow, double slotted head. Wire carried at different angle.

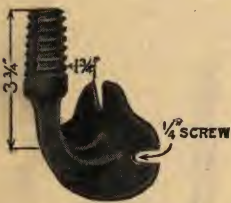
Cat. No.	Weight Pounds per 100	Price per 100
11	85	\$34.00



No. 44 Malleable Iron Brackets

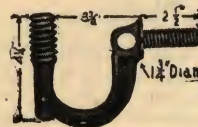
Can be fastened with three spikes or screws instead of two. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
44	107	\$56.00



No. 18 Malleable Iron Brackets

Hollow, double slotted insulator head. Intended for heavy work. The wire is carried about 4 inches from the base.



Cat. No.	Weight Pounds per 100	Price per 100
18	108	\$44.00

No. 45 Malleable Iron Brackets

Similar to No. 44 except base is curved for use on pole. Fastens with three spikes or screws. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
45	85	\$56.00

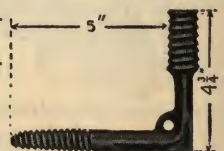


No. 20 Malleable Iron Brackets

Has standard lag screw thread instead of drive pin.

Hollow, double slotted insulator head.

Cat. No.	Weight Pounds per 100	Price per 100
20	66	\$26.00



No. 46 Malleable Iron Brackets

Larger and heavier than No. 43. Can be fastened with four spikes or screws. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
46	140	\$56.00

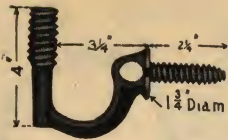


No. 47 Malleable Iron Brackets

Has curved instead of flat base. Designed for use on pole. Fastens with four spikes or screws. Hollow, double slotted insulator head.

Cat. No.	Weight, Pounds per 100	Price per 100
47	75	\$34.00



**No. 21 Malleable Iron Brackets**

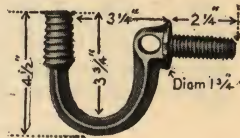
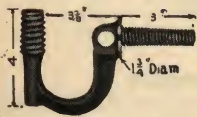
Shank is made with standard lag screw thread for use in connection with expansion bolts. Hollow, double slotted insulator head.

Cat. No.	Weight Pounds per 100	Price per 100
21	100	\$40.00

No. 22 Malleable Iron Brackets

Wire is carried about 4 inches from the base. This bracket is used for telephone work. Hollow, double slotted insulator head.

Cat. No.	Weight Pounds per 100	Price per 100
22	100	\$40.00

**No. 23 Malleable Iron Brackets**

Intended for heavy work. Hollow, double slotted insulator head.

Length of threaded pin is 3 inches.

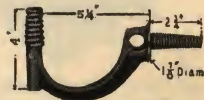
Cat. No.	Weight Pounds per 100	Price per 100
23	116	\$50.00

No. 35 Malleable Iron Brackets

Heavy in construction. The insulator head is slightly larger, being 1 1/8 inches in diameter, made to fit insulators in use in some localities.

Hollow, insulator head.

Cat. No.	Weight Pounds per 100	Price per 100
35	145	\$58.00

**Malleable Iron Brackets****No. 28****No. 29**

Intended for interior work underneath ceilings or cross-beams. Hollow double slotted insulator head. Heavy construction throughout.

Cat. No.	Wt. Lbs. per 100	Price per 100	Cat. No.	Wt. Lbs. per 100	Price per 100
28	140	\$80.00	29	190	\$100.00

C-B Knobs for Telephone Drop Wire

This knob is attached by means of a screw hook or bridle ring. It adjusts itself to any angle from which the wire may come, thus equalizing the strain and taking up all vibration, preventing trouble caused by breaking of insulation at the point of contact as when tied to a rigid knob.

Furnished in either single or double groove.

Shipping weight, per 1000, 250 pounds.



Price, Single Groove.....	per 1000	\$60.00
" Double "	" 1000	60.00

Joslyn Telephone Distributing Brackets

The No. 1200 is made of 3/8x1 3/4-inch stock and is used principally for dead ending twisted telephone wires on houses. It has three mounting holes 5/16 inch in diameter and may be mounted by means of wood screws or small lag screws.

No. 1202 is heavier, being made of 1/2x2-inch stock and is generally mounted on the pole by means of 3/4-inch lag screws. These brackets are standard with the A. T. & T.

The knobs are not included in the list prices and should be ordered separately.

Cat. No.	Style Bracket	Length, Leg Inches	Wt., Lbs. per 100	Price per 100
1200	House	3 5/8x2 3/4	50	\$8.50
1202	Pole	5 x2 1/2	88	11.75

Bierce Cable Rollers

The Bierce Cable Roller is practically unbreakable, the frame being made of forged steel and the roller of cast iron, protected on both sides by pressed steel disks, insuring the cable from injury and preventing it from catching when being pulled over the roller.

The clamping device, being mounted upon the hinged member, allows the frame to be rigidly clamped in position without placing any side strain on the messenger wire. The frame is so constructed that it will hang safely from the wire before the clamp is tightened.

Price, Plain.....	each	\$3.50
" Galvanized.....	"	4.00

National Aerial Cable Rings

This ring is made of spring steel wire galvanized by hot dip process after being formed. It is attached without the use of a tool and will stay in position on the strand.

Specify size of strand when ordering.

Packed in burlap sacks.

Size Inches	Size Strand Inches	Weight per 1000 Pkg.	Std.	Price per 1000
1 1/2	5/16-3/8	55	2000	\$18.00
2	5/16-3/8	62	1000	27.50
2 Heavy	5/16-3/8	75	1000	30.00
2 1/2	3/8-7/16	90	1000	35.00
3	3/8-7/16	105	500	38.00
3 1/2	7/16	115	500	43.00





Bonita Aerial Cable Rings

Attach on the strand by hand easily and quickly. May be used either for new work or reclipping on old cables. May be reused. The ring size is determined by the diameter of the circular opening of the rings when on the strand. May be obtained for any diameter of messenger wire. Specify strand size in each instance. Allow at least $\frac{3}{4}$ -inch greater diameter of ring than outside diameter of cable to be installed.

Diam. Inches	No. and Kind of Wire	Std. Pkg.	Wt. Lbs.	Price per 1000
1½	11 round	2000	65	\$16.00
1½	$\frac{3}{8} \times \frac{1}{2}$	1000	48	18.00
2	$\frac{7}{8} \times \frac{1}{2}$	1000	70	25.00
2	$\frac{1}{8} \times \frac{1}{4}$	1000	87	30.00
2½	$\frac{1}{8} \times \frac{1}{4}$	500	55	35.00
3	$\frac{1}{8} \times \frac{1}{4}$	500	60	40.00
3½	$\frac{1}{8} \times \frac{1}{4}$	500	65	45.00
4	Special	250	..	70.00
4½	to order	250	..	85.00



Locke Aerial Cable Rings

These rings are galvanized metal cable hangers which are attached on the strand by means of a special plier.

Type A

Type A rings have an inside diameter of $1\frac{3}{4}$ inches and are large enough for all cable up to 100 pair No. 22.

Diam. Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
1¾	1000	61	\$12.00



Type C

Type C rings have two hooks, making them exceptionally strong.

Diam. Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
1¾	1000	65	\$14.50
2	1000	72	15.50
2½	500	47	18.00
3	500	53	20.00
3½	250	29	24.00



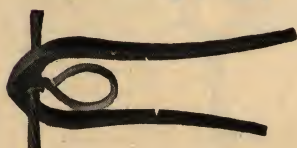
Type D

Type D rings also have two hooks but they drop on the strand direct, whereas Type C must be passed over the supporting wire and then given a quarter turn before engaging same.

Diam. Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
1¾	1000	75	\$14.50
2	1000	80	15.50
2½	500	50	18.00
3	500	58	20.00
3½	250	32	24.00

The hooks or eyes on all sizes and styles of rings are formed to fit any strand diameter. Specify strand size when ordering.

Cable Ring Pliers



Pliers for these rings are made in two sizes: Small size for $1\frac{3}{4}$ and 2-inch rings, and large size for 2, 2½, 3 and 3½-inch rings. Specify strand size when ordering.

Price, Small Size	each	\$3.00
" Large "	"	4.00
" Adjustable Size	"	10.00

Joslyn Bridle Rings

Hot Galvanized and Enameled



Galvanized Ring



Enameled Ring

Bridle rings are used to string telephone wires along the building. Easily installed, they afford an inexpensive method of distributing telephone wires. Furnished either hot galvanized or enameled, the enameled type being the more efficient on account of its smooth surface and insulating qualities.

Cat. No.	Style	Eye In.	Opening In.	Length Shank In.	Size Steel In.	Wt., Lbs. per 1000	Price per 1000
1632	1640	A	1½	1¼	1¼	160	.....
1633	1641	B	1½	1¼	1¼	160	.....
1634	1642	C	1¼	1¼	1¼	140	.....
1635	1643	D	1¼	1¼	1¼	130	.....
1636	1644	E	5/8	1¼	1¼	48	.....
1637	1645	F	3	1¼	1¼	540	.....
1638	1646	G	3	1¼	1¼	540	.....

Swisher Cable Hangers

The Swisher Hanger is easy to install. The marline is secured at both ends of the hook, so it is not possible for the hook to open up when subjected to any extraordinary strain.

Another feature of the formation is that it precludes the possibility of hook becoming detached from strand.

Swisher Cable Hangers are made according to the A. T. & T. Co.'s specification as to

galvanizing of hooks and quality of marline.

Hooks are galvanized by hot dip process after they are formed. Marline is 3-ply pure American hemp material.

Cat. No.	Cable Style	Will Hang Cable Max. Diam. In.	Approx. Wt., Lbs. Packed per 1000	Price per 1000
1714	25 Pair	1¾	35	\$25.00
1715	50 "	1½	38	27.50
1716	75 "	1½	40	28.00
1717	100 "	1½	43	30.50
1718	150 "	1½	45	31.50
1719	200 "	1½	48	33.00
1720	250 "	2¼	52	36.00
1727	300 "	2¼	58	38.50
1728	400 "	2¼	65	41.00

Marline Cable Hangers

No. 3 A. T. & T. Specifications

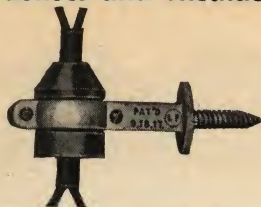


The hooks are made of No. 9 spring steel wire and are regalvanized by hot dip process after they are formed.

The loop is three-ply houseline in the lengths indicated.

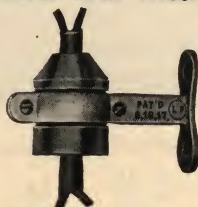
Lgth. of Loop, In.	Size of Cable, Pair	Wt., Lbs. per 1000	Price per 1000
9	25	35	\$23.80
11	50	37	26.20
12	75	38	28.00
14	100	40	30.00
15	150	42	31.00
16	200	45	32.50

No. 6 regalvanized hooks furnished on this grade at a net advance of \$1.50 per thousand.

**L-F Lag Screw Type Clamp
Brackets and Insulators**

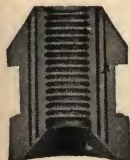
Malleable iron bracket, with galvanized iron bolts and brass nuts. Supports wires five inches from surface.

Cat. No.	Style Insulator	Size Wire Hole, In.	Std. Pkg.	Price Each
1	Conical E, Porcelain	$\frac{7}{16} \times \frac{3}{4}$	125	\$.75
1	" G "	$\frac{9}{16} \times \frac{13}{16}$	125	.75
1	" H "	$\frac{5}{16} \times \frac{11}{16}$	125	.75
2	" D "	$\frac{11}{16} \times 1$	125	.85

**L-F Foot Type Clamp
Brackets and Insulators**

Malleable iron bracket, with galvanized iron bolts and brass nuts. Supports wires five inches from surface.

Cat. No.	Style Insulator	Size Wire Hole, In.	Std. Pkg.	Price Each
25	Conical, E Porcelain	$\frac{7}{16} \times \frac{3}{4}$	125	\$.72
25	" G "	$\frac{9}{16} \times \frac{13}{16}$	125	.72
25	" H "	$\frac{5}{16} \times \frac{11}{16}$	125	.72
26	" D "	$\frac{11}{16} \times 1$	125	.80

**L-F Conical End Porcelain Pieces
Wire Hole Oval Shape**

Description	Number of Pieces	Hole Inches Size Wire	Price Each
Conical E	2	$\frac{7}{16} \times \frac{3}{4}$	\$.30
" D	2	$\frac{11}{16} \times 1$	.40

L-F Conical End Porcelain Pieces

Wire Hole Double Oval Shape



Description	Number of Pieces	Size Wire Hole Inches	Price Each
Conical G	2	$\frac{9}{16} \times \frac{13}{16}$	\$.30
" H	2	$\frac{5}{16} \times \frac{11}{16}$	.30

**L-F Double Type Clamp
Brackets and Insulators**

Malleable iron brackets; galvanized iron bolts and brass nuts. Supports wires three inches from surface.

Cat. No.	Style Insulator	Size Wire Hole, In.	Std. Pkg.	Price Each
75	Conical E, Porcelain	$\frac{7}{16} \times \frac{3}{4}$	...	\$2.50
75	" G "	$\frac{9}{16} \times \frac{13}{16}$	...	2.50
75	" H "	$\frac{5}{16} \times \frac{11}{16}$	...	2.50
76	" D "	$\frac{11}{16} \times 1$	...	2.70

**L-F Triple Type Clamp
Brackets and Insulators**

Brackets of malleable iron; galvanized iron bolts and brass nuts.

Supports wires 3 inches and $6\frac{3}{4}$ inches from surface.

Cat. No.	Style Insulator	Size Wire Hole, In.	Std. Pkg.	Price Each
125	Conical E, Porcelain	$\frac{7}{16} \times \frac{3}{4}$	...	\$3.75
125	" G "	$\frac{9}{16} \times \frac{13}{16}$	...	3.75
125	" H "	$\frac{5}{16} \times \frac{11}{16}$	...	3.75
126	" D "	$\frac{11}{16} \times 1$	...	4.05

**L-F Bolts, Nuts and
Lag Bolts**

Bolt and Nut

Bolt and nut is for clamping bracket to porcelain. Lag bolt is for fastening bracket to pole.

Lag Bolt

Description	Size Inches	Price per 100
Galvanized Iron Bolt and Brass Nut.....	$\frac{5}{16} \times \frac{1}{4}$	\$4.00
Brass Bolt and Nut.....	$\frac{5}{16} \times \frac{1}{4}$	6.00
Galvanized Lag Bolt.....	$\frac{3}{8} \times 3$	4.00

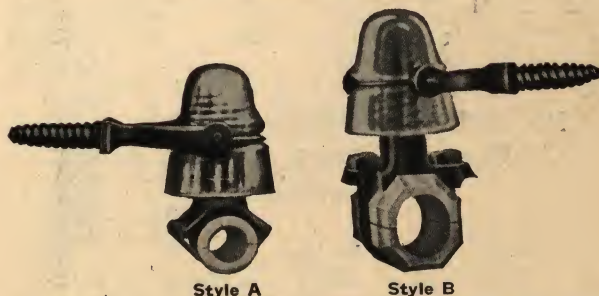
Pierce Tree Insulators

The Pierce Tree Insulator has many advantages, chief among which is the high insulation which insures safe installation on wires carrying high voltages. The wire is entirely enclosed by a glazed porcelain surface without parallel joints, that would wear or injure the wire or insulator.

The insulator is of rugged design, consists of two parts, can be used on any standard bracket, pin or support that any ordinary glass insulator can be used with. The weight of the wire is supported in direct line with and by the pin or bracket.

Holds the wire firmly in position away from the tree, allowing the wire to move freely through the aperture.

Has a double petticoat, presenting a dry high resistance surface to leakage. Force of gravity holds parts in position, top being firmly secured by one annealed copper tie wire. Price.....each \$.70

**Holmes Tree Insulators
With Porcelain Bushing**

Style A

Style B

Made in two sizes. Size A takes wire up to No. 00; size B takes wire up to and including No. 0000.

Prevents leakage, short circuits and tree grounds. Made of malleable iron with double petticoat insulator.

Always in upright position regardless of slant of tree. Current cannot leak even if wire is bare. It can be applied quickly to tree without cutting the wire.

Line wire is not fastened to insulator therefore tree can sway in any direction without trouble.

Price, Style A.....each	\$.80
" " B....."	1.00



Lynchburg Glass Insulators

Glass insulators are used almost exclusively on telephone and telegraph lines. They are also being used on medium voltage power lines.

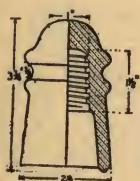
These insulators do not deteriorate and are not affected in size by changes in temperature. They will not absorb moisture and being transparent, inspection is simple.

Can be used with either wood or metal pins, but wood is preferable.

Insulators will be furnished without drip points unless otherwise ordered. Insulators furnished with drip points only on special order.

No. 10 Pony Insulators

With Drip Points



Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
10	9	400	695	\$92.90

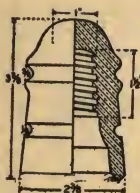
No. 30 Long Distance Insulators

With or without Drip Points

Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
30	14	300	880	\$114.50



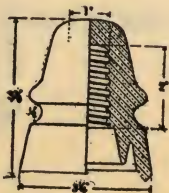
No. 31 Double Groove Pony Insulators



Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
31	11	400	750	\$92.90

No. 32 Double Petticoat Pony Insulators

Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
32	11½	300	817	\$108.50



No. 36 Deep Groove Double Petticoat Insulators



Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
36	19	200	1220	\$140.00

No. 38 Extra Deep Groove Double Petticoat Insulators

Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
38	20	200	1300	\$140.00



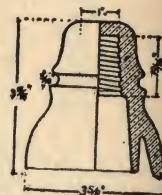
No. 43 Standard Western Union Double Petticoat Insulators



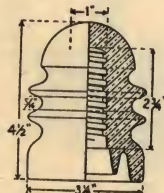
Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
43	22	200	1600	\$160.00

No. 44 New Telegraph Standard Insulators

Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
44	24	150	1910	\$160.00



No. 530 One Piece Transposition Insulators



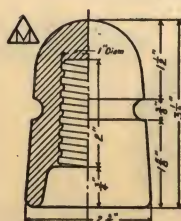
Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
530	29	125	2100	\$250.00

No. 2 Cable Double Petticoat Insulators

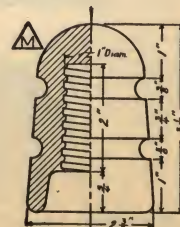
Cat. No.	Weight Ounces Each	Quantity to Barrel	Wt., Lbs. per 1000 Packed	Price per 1000
2	30	150	2150	\$250.00



Illinois Porcelain Telephone Insulators



No. 109



No. 112

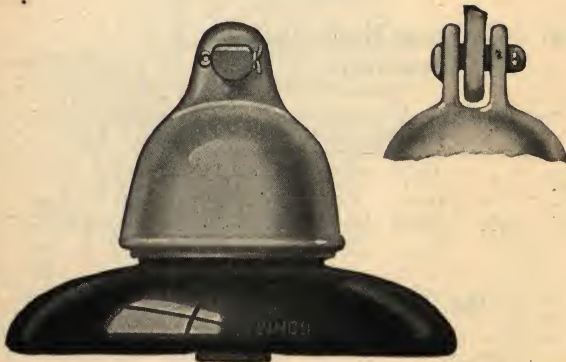
Cat. No.	Ht. In.	Diam. In.	Hole In.	Groove In.	Number per Bbl.	Wt., Lbs. per Bbl.	Price per 1000
109	3½	2⅝	1	⅜	500	360	\$95.00
112	3½	2⅝	1	⅜	500	350	\$95.00



Pinco High Tension Insulators Types of Insulators



Insulator No. 78 (45000 Volts)



Insulator No. 375

Pin Type Assembly

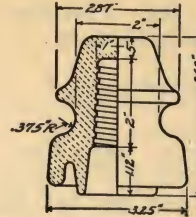
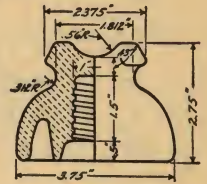
The ordinary practice employed in assembling multi-part insulators is to place a quantity of good grade of Portland cement, mixed neat, approximately 20 per cent water and 80 per cent cement, by weight, in one shell and nest another shell inside. After the cement has hardened, the insulator is ready for final electrical test and shipment.

In the insulators listed hereinafter absolutely no cement is placed between the shells, except at the lowest extremity of the innermost petticoat, which is of sufficient length to extend below the critical section where the greatest expansion and contraction occur. Porcelain, unless confined or bound by some other material, is capable of adjusting itself to any climatic condition or temperature changes. This fact has been definitely established by the single or one-piece insulators, which have shown no depreciation whatever, except where they have been damaged by sportsmen or lightning.

Porcelain is not a rapid conductor of temperature changes. Consequently, if the surface which comes in contact with the cement is placed a sufficient distance from the surface or section which is the most exposed to temperature changes, then the surface which comes in contact with the cement is protected, and not subject to damage on account of temperature changes.

No. 61 Pinco High Tension Porcelain Insulators

Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
61	8000	60000	30000	5 5/8	140	\$37.50

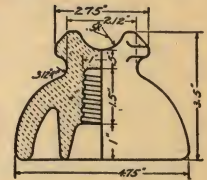


No. 62 Pinco High Tension Porcelain Insulators

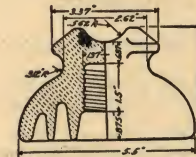
Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
62	6600	50000	25000	4	140	\$27.00

No. 63 Pinco High Tension Porcelain Insulators

Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
63	13500	65000	45000	7 1/2	240	\$64.00



No. 64 Pinco High Tension Porcelain Insulators



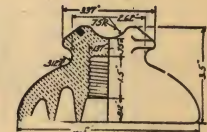
Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
64	17500	75000	50000	7 1/2	358	\$108.00

No. 64 has 1-inch pin hole. No. 64B has 1 3/8-inch pin hole.

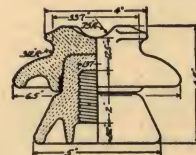
No. 65 Pinco High Tension Porcelain Insulators

Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
65	20000	80000	55000	8 1/2	410	\$144.00

No. 65 has 1-inch pin hole. No. 65A has 1 3/8-inch pin hole.



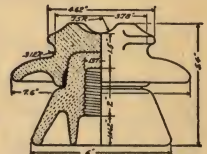
No. 66 Pinco High Tension Porcelain Insulators



Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
66	25000	90000	65000	9 3/4	575	\$178.00

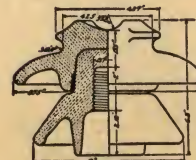
No. 69 Pinco High Tension Porcelain Insulators

Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
69	30000	100000	70000	12 3/8	881	\$240.00



No. 72 Pinco High Tension Porcelain Insulators

Weight per 100, 1250 pounds.



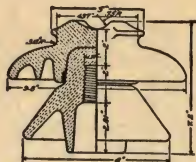
Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Wt. Lbs. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
72	35000	115000	80000	15 1/4		\$288.00



No. 75 Pinco High Tension Porcelain Insulators

Weight per 100, 1666 pounds.

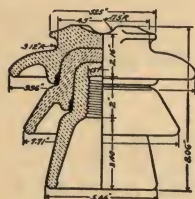
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
75	40000	135000	90000	21	\$360.00



No. 78 Pinco High Tension Porcelain Insulators

Weight per 100, 1900 pounds.

Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
78	45000	145000	95000	20 1/4	\$440.00



No. 82 Pinco High Tension Porcelain Insulators

Weight per 100, 3900 pounds.

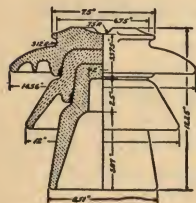
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
82	60000	180000	140000	27 1/2	\$1016.00



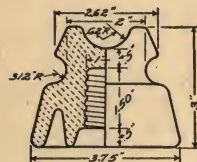
No. 86 Pinco High Tension Porcelain Insulators

Weight per 100, 5600 pounds.

Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
86	70000	210000	160000	34 3/4	\$1260.00



No. 223 Pinco High Tension Porcelain Insulators

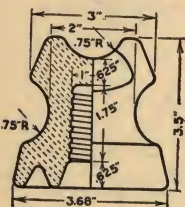


Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Wt. per 100	Price per 100
		Dry Flash Over	Wet Flash Over			
223	6600	50000	30000	4 1/2	150	\$37.50

No. 264 Pinco High Tension Insulators

Net weight, each 1.75 pounds.

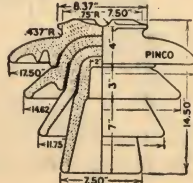
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
264	6600	50000	30000	3.75	....



No. 265 Pinco High Tension Insulators

Net weight, each 75 pounds.

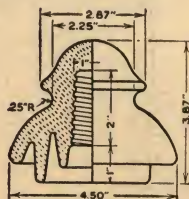
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
265	88000	260000	180000	49	....



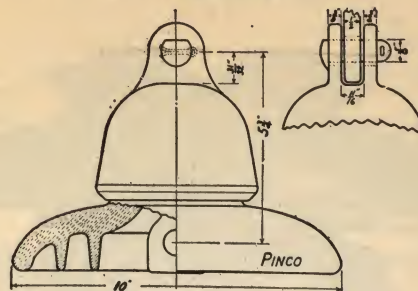
No. 300L Pinco High Tension Insulators

Net weight, each 1.75 pounds.

Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
300L	11000	68000	42000	7	....



No. 305 Pinco Porcelain Suspension Insulators

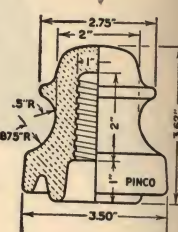


Cat. No.	Line	Voltage	Flash Over Dry	Flash Over Wet	Leakage Dist., In.	Mech. Strength Lbs.	Safe Working Load Lbs.	Price per 100
305	15000		90000	75000	12	14000	5000	\$480.00

No. 325L Pinco High Tension Insulators

Net weight, each 1.3 pounds.

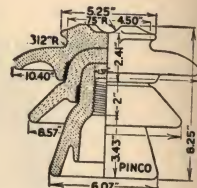
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
325L	6600	50000	20000	4	....



No. 345 Pinco High Tension Insulators

Net weight, each 18.25 pounds.

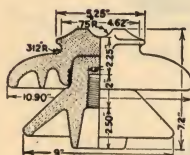
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
345	50000	150000	105000	24	....



No. 350L Pinco High Tension Insulators

Net weight, each 15.87 pounds.

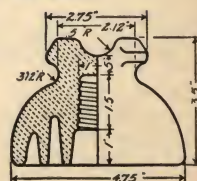
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
350L	45000	145000	95000	23	....



No. 366 Pinco High Tension Insulators

Net weight, each 2.37 pounds.

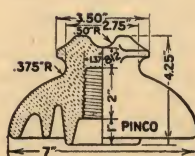
Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
366	13500	65000	45000	8.25	....



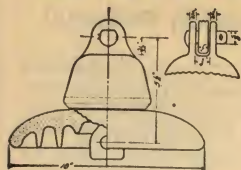
Nos. 367 and 367A Pinco High Tension Insulators

Net weight, each 3.75 pounds.

Cat. No.	Line	VOLTAGE		Leakage Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
367	23000	85000	65000	10.5	....
367A	23000	85000	65000	10.5	....



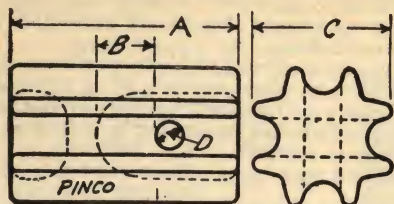
No. 375 Pinco High Tension Insulators



Net weight, each 11 pounds.

Cat. No.	Line	VOLTAGE		Leak- age Dist. In.	Price per 100
		Dry Flash Over	Wet Flash Over		
375	15000	90000	75000	12	...

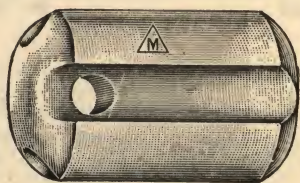
Pinco Porcelain Strain Insulators



Nos. 287, 284 and 289

Cat. No.	Line Voltage	Arc Over Voltage	Mech. Strength	DIMEN., IN.				Price per 100
				A	B	C	D	
287	2000	12000	9000	3 1/2	3/4	2 1/2	11/16	\$40.00
284	4000	15000	12000	5 3/8	3/4	3 1/4	11/16	80.00
289	4000	15000	20000	6 3/4	1 3/4	3 1/2	7/8	100.00

Illinois Porcelain Strain Insulators



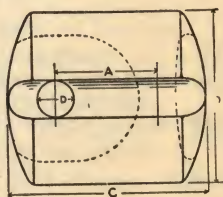
Nos. 500, 502, 504 and 506

Cat. No.	Ht. In.	Diam. In.	Hole In.	Groove In.	Number per Bbl.	Wt., Lbs. per Bbl.	Price per 1000
500	2 $\frac{1}{4}$	1 $\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{8}$	1600	450	\$210.00
502	3	2 $\frac{3}{8}$	$\frac{3}{8}$	$\frac{9}{16}$	400	440	420.00
504	3 $\frac{1}{2}$	2 $\frac{7}{8}$	$\frac{1}{2}$	$\frac{11}{16}$	250	450	525.00
506	5 $\frac{1}{2}$	3 $\frac{3}{8}$	$\frac{3}{4}$	$\frac{1}{8}$	140	480	1000.00

No. 500 Porcelain Strain Insulators

Wet Process

The protected end coverings and the fact that the wires pass through instead of around this insulator makes it impossible for ends of the span or guy wires to come in contact with each other, thus positively eliminating the chance of leakage of current.



No. 500 is designed for deadening telephone wires.

No. 502 is in general use on street railway span wire construction, and while not quite as heavy as the No. 504 it will do the work satisfactorily.

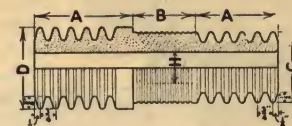
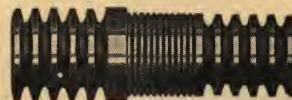
No. 504 is the regular street railway span wire insulator.

No. 506 is a span or guy wire insulator.

Cat. No.	Dry Flashover Voltage	Tensile Strength Pounds	No. per Bbl.	Approx. Ship. Wt. Lbs. per 100	Price per 1000
500	18000	4000	1250	25	\$210.00
502	25000	8000	450	120	420.00
504	27000	14000	270	175	525.00
506	31000	18000	150	327	1000.00

Cat. No.	DIMENSIONS, INCHES			
	Length	Diam.	Groove	Hole
500	2¼	1½	3/8	5/16
502	3	2⅜	9/16	3/8
504	3½	2⅝	11/16	1/2
506	5½	3⅝	7/8	3/4

Nos. 500-523 Pinco Standard Bushings



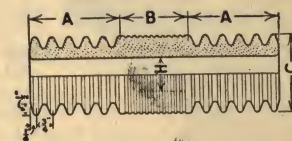
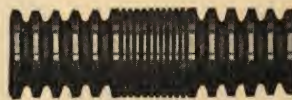
Cat. No.	DIMENSIONS, INCHES				Cat. No.	DIMENSIONS, INCHES			
	A	C	D	H		A	C	D	H
500L	3	3	3.5	1	512	3	4	4.5	2
501L	4.5	3	3.5	1	513	4.5	4	4.5	2
502L	6	3	3.5	1	514	6	4	4.5	2
503L	7.5	3	3.5	1	515	7.5	4	4.5	2
504L	9	3.25	3.75	1	516	9	4.25	4.75	2
505L	10.5	3.5	4	1	517	10.5	4.5	5	2
506L	3	3.5	4	1.5	518	3	4.5	5	2.5
507L	4.5	3.5	4	1.5	519	4.5	4.5	5	2.5
508L	6	3.5	4	1.5	520	6	4.5	5	2.5
509L	7.5	3.5	4	1.5	521	7.5	4.5	5	2.5
510L	9	3.75	4.25	1.5	522	9	4.75	5.25	2.5
511L	10.5	4	4.5	1.5	523	10.5	5	5.5	2.5

B dimension must be specified on all orders and inquiries.

Standard sizes are furnished with B dimension either 2, 4, 6, 8, 10, 12, 14, 16 or 18.

Prices upon application.

Nos. 524-547 Pinco Standard Bushings



Cat. No.	DIMENSIONS, INCHES			Cat. No.	DIMENSIONS, INCHES		
	A	C	H		A	C	H
524L	3	3	1	536	3	4	2
525L	4.5	3	1	537	4.5	4	2
526L	6	3	1	538	6	4	2
527L	7.5	3	1	539	7.5	4	2
528L	9	3.25	1	540	9	4.25	2
529L	10.50	3.50	1	541	10.5	4.50	2
530L	3	3.50	1.5	542	3	4.50	2.5
531L	4.5	3.50	1.5	543	4.5	4.50	2.5
532L	6	3.50	1.5	544	6	4.50	2.5
533L	7.5	3.50	1.5	545	7.5	4.50	2.5
534L	9	3.75	1.5	546	9	4.75	2.5
535L	10.50	4	1.5	547	10.5	5	2.5

B dimension must be specified on all orders or inquiries.

Standard sizes are furnished with B dimension either 2, 4, 6, 8, 10, 12, 14, 16 or 18.

Prices upon application.



Type A Memco Clark Insulator Clamps



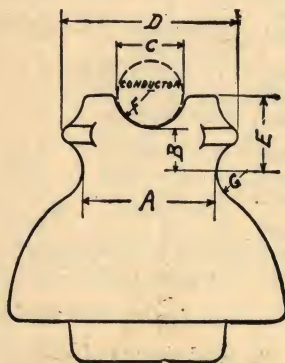
The Clark Insulator Clamp is used for firmly attaching conductors to porcelain or glass insulators and is used in place of old-fashioned tie wires.

The clamping jaws are bolted together with tie pieces of heavy solid copper with

button heads engaging holes in the clamps. Once the conductor is gripped by the clamping jaws, it serves as a part of the clamp itself.

When ordering, the following information should be supplied:

- 1.—Name and number of insulator, or fill in dimensions on sketch.
- 2.—Solid or stranded wire used.
- 3.—Conductor, bare or insulated.
- 4.—Exact outside diameter of conductor.



These clamps are supplied of either special high tensile strength compositions, or of malleable iron protected by a heavy coating of zinc and with steel bolts and nuts sherardized. Malleable iron clamps cannot be supplied in lots of less than 100.

Prices upon application.

Type C Memco Clark Insulator Clamps

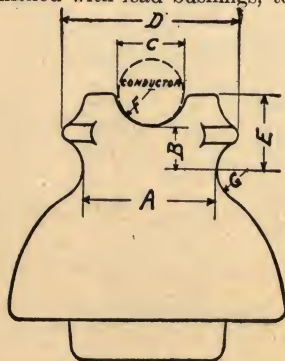


The Type C clamp is designed for use with small heavy insulators and for rigid construction. It is especially adapted for use at railroad crossings. Suitable bushings of soft copper or aluminum are provided, depending upon the conduc-

tor. It also provides when furnished with lead bushings, to amply protect the insulator, an excellent means of holding insulated conductors in place.

Type C clamp provides rigid construction and is recommended for use on lines strung under considerable tension, such as steel messenger lines, etc.

The clamp is also used with small insulators on the transmission line and also proves serviceable in the power house for attaching bus bars to insulators.



Prices upon application.

Railway Line Direct Suspension Material

Direct suspension type construction, as distinguished from catenary suspension type, is adapted for city construction, where there are a large number of curves, switches and crossings, also for use in mines where there is limited space between the trolley wire and the roof of the mine, and for industrial railways which operate at a low speed, with many curves, switches and crossings.

The standard line material listed in the following pages is the result of over 30 years experience in the design and manufacture of devices to meet every haulage requirement.

Unless otherwise ordered all malleable iron will be furnished with sherardized finish.

Suspensions equipped with $\frac{3}{4}$ -inch studs are not listed, but can be furnished, when specified, at an additional price.

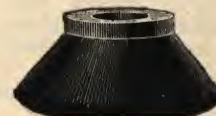
Trolley wire ears are furnished regularly tapped for $\frac{5}{8}$ -inch studs, but can be furnished tapped for $\frac{3}{4}$ inch, if so specified, without additional charge.

Prices furnished upon application.

Form C Standard Cap and Cone Insulators



No. 3002



No. 3003

Cat. No.	Description	Price per 100
3000	Cap and Cone Insulator, Complete, $\frac{5}{8}$ -inch Stud.....	\$84.00
3002	Cap with $\frac{5}{8}$ -inch Stud.....	56.00
3003	Cone for $\frac{5}{8}$ " "	28.00

Straight Line Suspensions



Cat. No.	Description	Price per 100
3020	S. L. Suspension, $\frac{5}{8}$ -inch Stud....	\$132.00
3026	Straight Line Body Only.....	48.00

Single Curve Suspensions

Cat. No.	Description	Price per 100
3030	S. C. Suspension, $\frac{5}{8}$ -inch Stud.....	\$140.00
3036	Single Curve Body Only.....	56.00



Double Curve Suspensions



Cat. No.	Description	Price per 100
3040	D. C. Suspension, $\frac{5}{8}$ -inch Stud.....	\$168.00
3046	Double Curve Body Only.....	84.00

Strain Suspensions

Cat. No.	Description	Price per 100
3050	Strain Suspension, $\frac{5}{8}$ -inch Stud....	\$154.00
3056	Strain Body Only.....	70.00





Car Barn or Bridge Suspensions

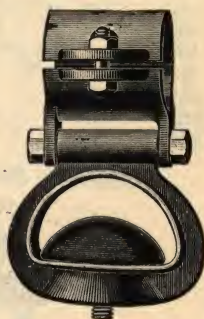


Cat. No.	Description	Price per 100
3060	Barn Suspension, 5/8-inch Stud.....	\$184.00
3066	Body Only.....	100.00

Form C Hinged Bracket Suspensions

With Patent Hinged Clamp

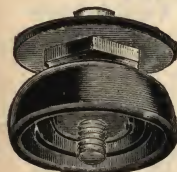
Cat. No.	Description	Price per 100
3130	Hinged Suspension, 1 1/2-inch Bracket, 5/8-inch Stud.....	\$250.00
3134	Hinged Suspension, 2-inch Bracket, 5/8-inch Stud.....	262.00
3131	Metal Parts Only, 1 1/2-inch Bracket.....	166.00
3133	Metal Parts Only, 2-inch Bracket.....	178.00



Form M Mine Suspensions

Protected on the exterior surface by a malleable iron shell. The insulation is compressed into them under high heat and heavy pressure. In the underside are moulded deep petticoats which materially increase the insulation distance, and in wet mines prevent the creeping in of moisture across the surface and short circuiting the insulator.

Form M Mine Suspensions



Has flange top with boss tapped for 5/8-inch expansion bolt. Diameter of bell, 3 5/8 inches. Total depth from top of flange to ear, hub surface, 2 inches.

Cat. No.	Description	Price per 100
4330	M. I. Body, 5/8-inch Stud	\$125.00

Form M Mine Suspensions

Flat Top for Attaching Direct to Timbers



Diameter of bell, 3 5/8 inches. Total depth from top to ear, hub surface, 1 1/8 inches.

Cat. No.	Description	Price per 100
4250	M.I. Body, 5/8-inch Stud....	\$125.00

Form M Mine Suspensions



Has flat top for direct attachment to timbers. Diameter of bell, 3 inches. Total depth from top to ear, hub surface, 1 1/8 inches.

Cat. No.	Description	Price per 100
4316	M. I. Body, 5/8-inch Stud.....	\$90.00

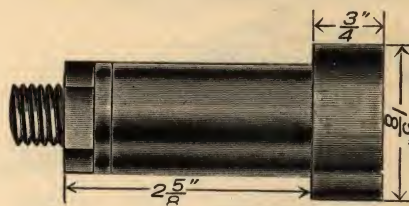
Form W Mine Suspensions

Cat. No.	Description	Price per 100
3444	M. I. Metal Parts, 5/8-inch Stud.....	\$170.00
3448	M. I. Body Only.....	110.00
3414	Insulated Bolt, 5/8-inch Stud.....	60.00



Insulated Bolt Type of Suspension Material

Insulated bolts consist of drop-forged steel centers insulated with a compound particularly adapted for the purpose. They are made in two forms, differing in the dimensions of the head and the length under the head. The diameter of the bolt under the head is 1 1/8-inch in either form.



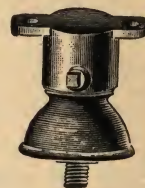
Form W West End Insulated Bolts

Standard insulated Form W bolt, 5/8-in. stud. Price, No. 3300 ... per 100 \$56.00

Form W Car Barn Bridge Suspensions

Fitted with standard insulated bolts.

Cat. No.	Description	Price per 100
3390	M. I. Body, 5/8-inch Stud..	\$166.00
3394	Body Only.....	110.00



Form W Suspension Bolts



No. 3310



No. 3325



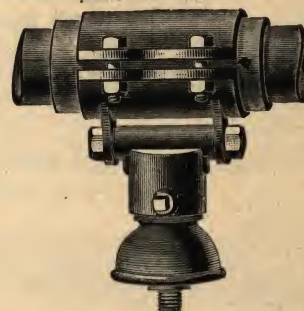
No. 3340

Cat. No.	Description	Price per 100
3310	S.L. Suspension, M.I. Body 5/8-inch Stud	\$148.00
3316	S.L. M.I. Body Only..	92.00
3325	S.C. Suspension, M.I. Body, 5/8-inch Stud	156.00
3331	S.C. M.I. Body Only..	100.00
3340	D.C. Suspension, M.I. Body 5/8-inch Stud	172.00
3346	D.C. M.I. Body Only..	116.00

Form W Hinged Bracket Suspensions

Double Insulation, with Split Bolted Clamp and Hard Fiber Sleeve

Cat. No.	Description	Price per 100
3380	1 1/2-inch Bracket, 5/8-inch Stud.	\$420.00
3384	2-inch Bracket, 5/8-inch Stud.	480.00
3381	Metal Parts Only, 1 1/2-in. Bracket	340.00
3383	Metal Parts Only, 2-in. Bracket	376.00
3145	Fiber Sleeve, 1 1/2-in. Bracket.	60.00
3147	Fiber Sleeve, 2-in. Bracket.	76.00



Forms WB and WM Extra Top Caps and Washers

Top caps and leather washers are interchangeable with all Forms WB and WM suspensions.

Prices given for bodies only, under various W, WB and WM devices include top caps and washers.

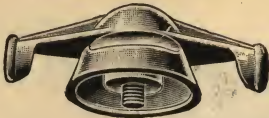
Cat. No.	Description	Price per 100
3670	Cap Only, M. I.....	\$20.00
3673	Leather Friction Washers.....	4.20



Form R Straight Line Suspensions

Designed to stand severe service. The castings are heavy, and made with extra deep petticoats with reinforced rims. The outriggers are designed extra broad and strongly ribbed to take in without deflection the heaviest span wires. The studs are solid drop-forged steel.

Medium Size



Cat. No.	Description	Price per 100
4000	M. I. Shell, $\frac{5}{8}$ -inch Stud.....	\$105.00

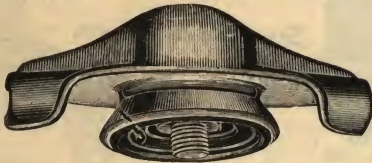
Standard Size



4044	M. I. Shell, $\frac{5}{8}$ -inch Stud.....	\$120.00
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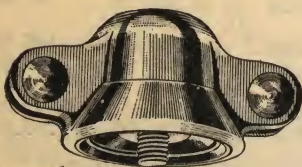
Extra Heavy Size

Outriggers to Take $\frac{1}{2}$ -inch Span Wire

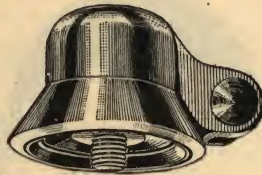


4026	M. I. Shell, $\frac{5}{8}$ -inch Stud.....	\$150.00
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Straight Line and Curve Suspensions



No. 4225



No. 4229

Designed for 1200-volt lines when used in connection with strain insulators, and are fitted complete at the additional price of the strain insulator as specified.

With Double Ear

Cat. No.	Description	Price per 100
4225	M. I. Shell, $\frac{5}{8}$ -inch Stud.....	\$120.00

With Single Ear

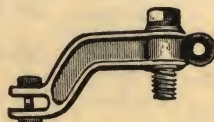
4229	M. I. Shell, $\frac{5}{8}$ -inch Stud.....	\$115.00
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Form S Single Wire Yoke Suspensions

Metal Parts without Insulation



No. 4148



No. 4165



No. 4188

Cat. No.	Description	Price per 100
4148	Straight Line, M. I. Yoke, $\frac{5}{8}$ -inch Stud.....	\$110.00
4168	Single Curve, M. I. " $\frac{5}{8}$ " " "	90.00
4188	Double " M. I. " $\frac{5}{8}$ " " "	145.00

Macallen Giant Sheet Mica Insulators

With Two Eyes



Cat. No.	Diam. Body In.	Inside Diam. Eye In.	Distance Between Centers In.	Diam. Stud Conn. In.	Average Breaking Strain Lbs.	Price per 100
4501	1 $\frac{3}{4}$	$\frac{11}{16}$	5 $\frac{1}{8}$	$\frac{7}{16}$	5000	\$88.00
4511	2	$\frac{11}{16}$	5 $\frac{3}{8}$	$\frac{1}{2}$	7500	98.00
4515	2	$\frac{11}{16}$ and 1	5 $\frac{1}{4}$	$\frac{1}{2}$	7500	108.00
4517	2	1	5 $\frac{1}{8}$	$\frac{1}{2}$	7500	118.00
4526	2 $\frac{1}{4}$	1	5 $\frac{1}{2}$	$\frac{5}{8}$	8500	130.00
4541	2 $\frac{5}{8}$	1	5 $\frac{3}{4}$	$\frac{3}{4}$	10000	164.00

Macallen Giant Sheet Mica Insulators

With Eye and Clevis



Cat. No.	Diam. Body In.	Inside Diam. Eye In.	Width Clevis In.	Distance Between Centers In.	Diam. Stud Conn. In.	Average Breaking Strain Lbs.	Price per 100
4503	1 $\frac{3}{4}$	$\frac{11}{16}$	$\frac{5}{8}$	4 $\frac{7}{8}$	$\frac{7}{16}$	5000	\$98.00
4513	2	$\frac{11}{16}$	$\frac{5}{8}$	5 $\frac{1}{8}$	$\frac{1}{2}$	7500	108.00
4519	2	1	$\frac{5}{8}$	5	$\frac{1}{2}$	7500	118.00
4528	2 $\frac{1}{4}$	1	$\frac{13}{16}$	5 $\frac{5}{8}$	$\frac{5}{8}$	8500	140.00
4543	2 $\frac{5}{8}$	1	$\frac{13}{16}$	5 $\frac{7}{8}$	$\frac{3}{4}$	10000	174.00

Macallen Giant Sheet Mica Insulators

With Two Clevises



Cat. No.	Diam. Body In.	Width Clevis In.	Distance Between Centers In.	Diam. Stud Conn. In.	Average Breaking Strain Lbs.	Price per 100
4504	1 $\frac{3}{4}$	$\frac{5}{8}$	4 $\frac{5}{8}$	$\frac{7}{16}$	5000	\$108.00
4521	2	$\frac{5}{8}$	4 $\frac{7}{8}$	$\frac{1}{2}$	7500	118.00
4530	2 $\frac{1}{4}$	$\frac{13}{16}$	5 $\frac{3}{4}$	$\frac{5}{8}$	8500	150.00
4545	2 $\frac{5}{8}$	$\frac{13}{16}$	6	$\frac{3}{4}$	10000	184.00

Twin Giant Strains

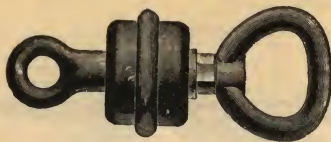


Composed of two large 2 $\frac{1}{4}$ -inch body strains, screwed together.

Cat. No.	Description	Price per 100
4551	With Two Eyes.....	\$260.00
4553	" Eye and Clevis.....	280.00
4555	" Two Clevises.....	300.00



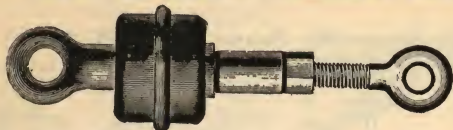
Giant Heavy Terminals



For use in dead-ending trolley or feed wires, and for other purposes where an extra strong insulator is required. Eyes are made of malleable iron and the swivel of bronze.

Price, No. 4566per 100 \$275.00

Giant Standard Insulated Turnbuckles



Bronze Swivel and 5/8-inch Screw

Price No. 4581, With Bronze Screw Eye....per 100 \$330.00
" " 4588, " Drop-forged Steel Eye. " 330.00

Standard Brooklyn Strain Insulators



Regular Size, 5/8-inch Screw and 3 Inches Take-up

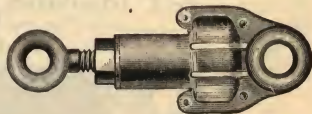
Cat. No.	Description	Price per 100
4820	M. I. with Steel Eye Bolt.....	\$250.00
4827	All Metal Parts Bronze.....	440.00
4828	M. I. with Clevis in Place of Eye.....	260.00

Long Regular Size, 5/8-inch Screw, 4 Inches Take-up

4838	M. I. with Steel Eye Bolt.....	\$250.00
4842	All Metal Parts Bronze.....	440.00
4846	With Clevis in Place of Eye.....	260.00

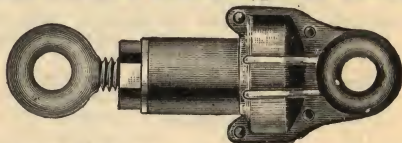
Extra Heavy Brooklyn Strains

With 3/4-inch Screw
4 Inches Take-up



Cat. No.	Description	Price per 100
4850	M. I. with Steel Eye Bolt.....	\$360.00
4857	M. I. " " " and Large Eye....	375.00
4855	Metal Parts Bronze.....	700.00

Mammoth Brooklyn Strains With 1 1/8-inch Screw, 4 1/2-inch Take-up



Price, No. 4858, All Metal Parts Bronze....per 100 \$2070.00

Double End Brooklyn Strains

With 5/8-inch Drop Forged Steel
Screw Eyes, 6 Inches
Take-up on Each Insulator



Cat. No.	Description	Price per 100
4875	Malleable Iron Body and Shackle.....	\$500.00

With 3/4-inch Drop Forged Steel Screw-eyes,
8 Inches Take-up on Each Insulator

Cat. No.	Description	Price per 100
4870	Malleable Iron Body and Shackle.....	\$720.00

Wood Strain Insulators

Malleable Iron Terminals



Cat. No.	Dimen. Inches Diam.	A	B	Price per 100	Cat. No.	Dimen. Inches Diam.	A	B	Price per 100
4600	1	9 1/2	5	\$75.00	4626	1 1/2	17 1/4	12	\$200.00
4602	1	13 1/2	9	80.00	4628	1 1/2	20 1/4	15	220.00
4604	1	16 1/2	12	90.00	4630	1 1/2	29 1/4	24	320.00
4606	1	19 1/2	15	105.00	4632	1 1/2	41 1/4	36	400.00
4607	1 1/4	9 1/2	5	85.00	4634	1 1/2	53 1/4	48	480.00
4610	1 1/4	13 1/2	9	95.00	4636	1 3/4	10 1/4	5	180.00
4612	1 1/4	16 1/2	12	105.00	4638	1 3/4	14 1/4	9	195.00
4614	1 1/4	19 1/2	15	120.00	4640	1 3/4	17 1/4	12	210.00
4616	1 1/4	28 1/2	24	145.00	4642	1 3/4	20 1/4	15	225.00
4618	1 1/4	40 1/2	36	265.00	4644	1 3/4	29 1/4	24	360.00
4620	1 1/4	52 1/2	48	370.00	4646	1 3/4	41 1/4	36	455.00
4622	1 1/2	10 1/4	5	160.00	4648	1 3/4	53 1/4	48	550.00
4624	1 1/2	14 1/4	9	175.00					

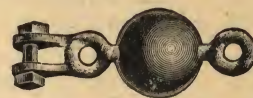
Wood Strain Insulators with Clevis



Cat. No.	Max. Lgth. of Eyes, In.	Diam. Bolt In.	Price per 100	Cat. No.	Max. Lgth. of Eyes, In.	Diam. Bolt In.	Price per 100
4650	9 3/4	1	\$90.00	4654	9 3/4	1 1/4	\$100.00
4652	19 3/4	1	120.00	4656	19 3/4	1 1/4	135.00

Globe Strain Insulators

Malleable Iron with Eyes Malleable Iron Eye and Clevis



Cat. No.	Diameter Inches	Price per 100	Cat. No.	Diameter Inches	Price per 100
4700	2	\$70.00	4720	2	\$85.00
4702	2 1/4	80.00	4722	2 1/4	95.00
4704	2 1/2	90.00	4724	2 1/2	105.00
4706	2 3/4	135.00	4726	2 3/4	150.00
4708	3	170.00	4728	3	185.00

Insulated Drop-forged Steel Turnbuckles



With Cylindrical Eyes for Attaching to Bolt

Cat. No.	Size Bolt In.	Size Opening In.	Price per 100	Cat. No.	Size Bolt In.	Size Opening In.	Price per 100
4790	1 1/2	6	\$220.00	4808	1 1/2	6	\$220.00
4792	1 1/2	9	280.00	4810	1 1/2	9	280.00
4796	5/8	6	270.00	4812	5/8	6	270.00
4798	5/8	9	280.00	4814	5/8	9	280.00
4794	5/8	12	295.00	4816	5/8	12	295.00

With Oval Eyes for Use with Span Wire or Cable



Bronze Trolley Wire Ears Clinch Type

Made of an all-new metal. Cast solid and milled out for the required size wire, thus insuring a perfectly clean and uniform groove for the wire. Patterns are made heavy, with an extra backbone, tapering gradually from the hub to the ends, the hubs being large and filleted.

Ears are suitable for use with all standard suspensions.

Straight Line Ears are listed both tinned and not tinned.

Any type ear furnished to order tapped for $\frac{3}{4}$ -inch studs at no additional cost.

Standard Straight Line Trolley Wire Ears Full, Deep Groove for Round Wire



With Grooves Not Tinned

Cat. No.	Lgth. Ear, In.	Wire Gauge	Stud In.	Price per 100
6300	15	0	$\frac{5}{8}$	\$102.00
6301	15	00	$\frac{5}{8}$	110.00
6302	15	000	$\frac{5}{8}$	120.00
6303	15	0000	$\frac{5}{8}$	130.00
6307	12	0	$\frac{5}{8}$	88.00
6308	12	00	$\frac{5}{8}$	96.00
6309	12	000	$\frac{5}{8}$	104.00
6310	12	0000	$\frac{5}{8}$	112.00
6314	9	0	$\frac{5}{8}$	76.00
6315	9	00	$\frac{5}{8}$	82.00

With Grooves Tinned

Cat. No.	Lgth. Ear, In.	Wire Gauge	Stud In.	Price per 100	Cat. No.	Lgth. Ear, In.	Wire Gauge	Stud In.	Price per 100
6320	15	0	$\frac{5}{8}$	\$107.00	6328	12	00	$\frac{5}{8}$	\$101.00
6321	15	00	$\frac{5}{8}$	115.00	6329	12	000	$\frac{5}{8}$	109.00
6322	15	000	$\frac{5}{8}$	125.00	6330	12	0000	$\frac{5}{8}$	117.00
6323	15	0000	$\frac{5}{8}$	135.00	6334	9	0	$\frac{5}{8}$	81.00
6327	12	0	$\frac{5}{8}$	93.00	6335	9	00	$\frac{5}{8}$	87.00

Straight Line Clamping Ears



All grooved wire ears are interchangeable on Nos. 00, 000 and 0000.

Cat. No.	Description	Price per 100
6400	5 Inches Long, for $\frac{5}{8}$ -inch Stud, Bronze.....	\$100.00
6401	5 " " " " " " M. I.	50.00
6403	7 " " " " " " Bronze.....	120.00
6405	7 " " " " " " M. I.	58.00
6409	9 " " " " " " Bronze.....	160.00
6411	9 " " " " " " M. I.	70.00

The 5-inch clamps are fitted with 3 screws, and the 7 and 9-inch with 4 screws.

St aight Line Clamping Ears



All Figure 8 wire ears are interchangeable on Nos. 00, 000 and 0000 wire.

Cat. No.	Description	Price per 100
6500	5 Inches Long, $\frac{5}{8}$ -inch Stud, Bronze.....	\$100.00
6501	5 " " " " " " M. I.	50.00
6503	7 " " " " " " Bronze.....	120.00
6505	7 " " " " " " M. I.	58.00
6509	9 " " " " " " Bronze.....	160.00
6511	9 " " " " " " M. I.	70.00

The 5-inch clamps are fitted with 3 screws, and the 7 and 9-inch with 4 screws.

Trolley Wire Splicing Sleeves

For Round and Grooved Wire



Made of either hard drawn copper or brass rod, drilled and milled out of the solid stock and carefully tinned.

Splicing Sleeves for Round Trolley Wire

CAT. NOS.		Wire Gauge	Lgth. In.	Diam. In.	PRICE, PER 100	
Drawn Brass	Drawn Copper				Drawn Brass	Drawn Copper
6600	6620	0	10	$\frac{5}{8}$	\$132.00	\$152.00
6601	6621	0	15	$\frac{5}{8}$	180.00	207.00
6617	6637	0	18	$\frac{11}{16}$	270.00	310.50
6602	6622	00	10	$\frac{5}{8}$	132.00	152.00
6603	6623	00	16	$\frac{5}{8}$	200.00	230.00
6604	6624	00	18	$\frac{11}{16}$	270.00	310.50
6605	6625	000	11	$\frac{3}{4}$	200.00	230.00
6606	6626	000	18	$\frac{3}{4}$	300.00	345.00
6607	6627	000	18	$\frac{7}{8}$	380.00	437.00
6608	6628	0000	12	$\frac{7}{8}$	270.00	310.50
6609	6629	0000	20	$\frac{7}{8}$	420.00	483.00

Splicing Sleeves for Grooved Trolley Wire

CAT. NO.		Wire Gauge	Lgth. In.	Diam. In.	PRICE, PER 100	
Drawn Brass	Drawn Copper				Drawn Brass	Drawn Copper
6610	6630	00	11	$\frac{3}{4}$	\$200.00	\$230.00
6611	6631	00	18	$\frac{3}{4}$	300.00	345.00
6612	6632	00	18	$\frac{7}{8}$	380.00	437.00
6613	6633	000	12	$\frac{7}{8}$	270.00	310.50
6614	6634	000	20	$\frac{7}{8}$	420.00	483.00
6615	6635	0000	12	$\frac{7}{8}$	270.00	310.50
6616	6636	0000	20	$\frac{7}{8}$	420.00	483.00

G-E Insulated Turnbuckles



Insulated turnbuckles, sometimes called Brooklyn Strain Insulators, are provided with drop-forged steel eyebolts. Turnbuckles have malleable iron casting with eyebolts sherardized to prevent rusting. The casting is made in two halves which fit around the head of the insulated portion fastened together with hollow set screws, thus affording a resistance to tensile strain limited only by the ultimate breaking point of the solid metal.

Cat. No.	Diam. Bolt, In.	Finish	Wt., Lbs. per 100	Price per 100
27382	$\frac{5}{8}$	Sherardized	325	\$250.00
40802	$\frac{3}{4}$	"	350	360.00

G-E Wood Strain Insulators With Two Eyes



Made from selected hickory treated by a special oil impregnating process which permanently excludes moisture and has transparent finish. End caps have standard sherardized finish.

Cat. No.	DIMENSIONS, IN.		Wt., Lbs. per 100	Price per 100
	Length	Diam.		
16727	$9\frac{1}{2}$	1	140	\$75.00
37488	$9\frac{1}{2}$	$1\frac{1}{4}$	175	85.00
61563	12	$1\frac{3}{4}$	440	180.00
37489	20	1	180	105.00
36313	20	$1\frac{1}{4}$	235	120.00
48433	$28\frac{1}{2}$	$1\frac{1}{4}$	300	145.00



Uninsulated Bronze Trolley Wire Crossings

Right Angle

For round or grooved wire.



Cat. No.	Wire Gauge	Price per 100
6742	00	\$1250.00
6740	000	1250.00
6741	0000	1250.00

Adjustable Crossings

For round or grooved wire.

Cat. No.	Wire Gauge	Price per 100
6749	00	\$1120.00
6750	000	1400.00
6751	0000	1400.00



Adjustable Crossings

For round or grooved wire.



Cat. No.	Wire Gauge	Price per 100
6752	00	\$1400.00
6753	000	1400.00
6754	0000	1400.00

Section Insulators Single Wood Beam Type



Cat. No.	Description	Price per 100
2950	For 0 and 00 Round or Grooved Wire.....	\$1130.00
2951	" 00 Figure 8 Wire.....	1130.00
2952	" 000 Round and Grooved Wire.....	1130.00
2953	" 000 Figure 8 Wire.....	1130.00
2954	" Extra Runner.....	140.00

Heavy Pattern



Cat. No.	Description	Price per 100
2961	For 0 and 00 Round or Grooved Wire....	\$1400.00
2962	" 00 Figure 8 Wire.....	1400.00
2963	" 000 Round or Grooved Wire.....	1400.00
2964	" 000 Figure 8 Wire.....	1400.00
2965	" 0000 Round or Grooved Wire.....	1400.00
2966	" 0000 Figure 8 Wire.....	1400.00
2967	" Extra Runners.....	140.00

G-E Feeder Strain Clamps



Cat. No. 100077 for No. 0000, Cat. No. 100076 for No. 250000-300000 C.M., Cat. No. 100075 for No. 400000-650000 C.M. and Cat. No. 100074 for No. 700000-1000000 C.M. cables, respectively.

Cat. No.	Approx. Wt., Lbs. per 100	Price per 100	Cat. No.	Approx. Wt., Lbs. per 100	Price per 100
100077	190	\$100.00	100075	275	\$175.00
100076	220	120.00	100074	350	185.00

G-E Railway Line Material

The standard line material listed in the following pages is the result of wide experience in the design and manufacture of devices to meet every haulage requirement.

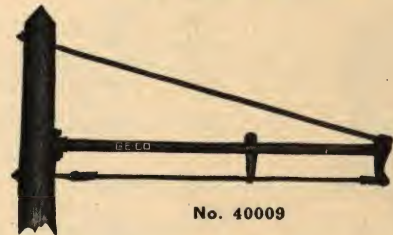
The insulating material used in the various suspensions, strain insulators, etc., is suitable for use under special conditions of high temperatures and is beyond the possibility of injury from any service temperatures.

The rust-resisting finish given these devices, unless otherwise stated in the tables, is applied by the electric oven sherardizing process.

In mines where acids are found in the mine water, sufficient in strength to cause a deterioration of a zinc coating, the japanned finish is preferred. It is recommended that a coat of heavy asphaltum paint be applied from time to time after installation.

Every effort has been made to include in the standard list all the devices required in approved railway line construction.

G-E Form A1 Brackets for Wood Poles



No. 40009

Pole brackets listed represent some of the standard forms called for in modern railway line construction and include the three styles of tube, the use of which has been approved in the best practice. The wrought iron pipe referred to in the table is standard welded gas and water pipe, and the structural tubing is a special high carbon steel tube with butt joint, which, because of the great stiffness of the material, does not require a welded seam.

Material	Nom. Diam. Inches	Inside Diam. Inches	Act. Outside Diam. Inches	Thickness of Wall Inches	Wt. Lbs. per Ft.
Wrought Iron Pipe.....	1 1/4		1.66	0.140	2.2
" " ".....	1 1/2		1.90	0.145	2.6
" " ".....	2		2.375	0.154	3.6
"A" Tubing.....	1 1/4		1.66	0.095	1.5
"A" ".....	1 1/2		1.90	0.095	1.87
"A" ".....	2		2.375	0.107	2.5
"C" ".....	1 1/4		1.66	0.140	2.2
"C" ".....	1 1/2		1.90	0.145	2.5
"C" ".....	2		2.375	0.154	3.5

Cat. No.	Description	Length Feet	Approx. Wt., Lbs. per 100	Price per 100
40009	1 1/2 in. A Tubing.....	9	3250	\$700.00
40010	1 1/2 " C ".....	9	3800	730.00
40011	1 1/2 " Wrought Iron Pipe..	9	3900	730.00
40012	2 " A Tubing.....	9	3450	870.00
40013	2 " C ".....	9	4000	900.00
40014	2 " Wrought Iron Pipe..	9	4100	900.00
156159	1 1/2 " A Tubing.....	10	3500	770.00
156170	1 1/2 " C ".....	10	4125	800.00
156171	1 1/2 " Wrought Iron Pipe..	10	4225	800.00
156172	2 " A Tubing.....	10	3775	970.00
156173	2 " C ".....	10	4425	1000.00
156174	2 " Wrought Iron Pipe..	10	4525	1000.00

All brackets listed are finished in black japan and are furnished complete including tube, guy rod, set of castings, cable, eyebolts and lag screws for wood poles or pole clamps for iron pole construction.

Brackets with cable, eyebolts and lag screws omitted may be furnished when desired.

Prices and information on other forms and lengths of brackets for wood poles and all forms of brackets for standard pipe poles furnished on request.



G-E Form C Rigid Brackets



No. 40027

Cat. No.	Tubing	Arm In.	Strut In.	Wt., Lbs. per 100	Length Feet	Price per 100
40027	A	1½	1¼	2850	9	\$950.00
40028	C	1½	1¼	3700	9	980.00
40029	Wrought I. Pipe	1½	1¼	3800	9	980.00
40030	A	2	1½	3800	9	1130.00
40031	C	2	1½	5000	9	1170.00
40032	Wrought I. Pipe	2	1½	5100	9	1170.00
156188	A	1½	1¼	3040	10	1035.00
156189	C	1½	1¼	4025	10	1065.00
156190	Wrought I. Pipe	1½	1¼	4139	10	1065.00
156191	A	2	1½	4065	10	1215.00
156192	C	2	1½	5425	10	1245.00
156193	Wrought I. Pipe	2	1½	5550	10	1245.00

For brackets for pipe poles, and other lengths, prices will be quoted upon application.

G-E Cast Iron Pole Brackets

For Supporting Pipe Bracket Arms



No. 15037

Cat. No.	Description	Wt. Lbs.	Price per 100
15026	Medium Bracket for 1½-in. Pipe, Length 22½ in., Height 28½ in., Diam. of Hole 2½ in.....	2400	\$670.00
15037	Long Bracket for 1½-in. Pipe, Length 30½ in., Height 28½ in., Diam. of Hole 2½ in.....	3100	770.00

No. 1 Kalamazoo Trolley Wheels



"V" Groove

Diameter.....inches	6
Width....."	1½
Depth of Groove...."	¾
Length of Hub....."	1½
Graphite bushing for ⅝-inch pin.	
Other dimensions to order.	
Graphite bushing for ¾ or 1-inch pin.	
Length of Hub.....inches	2

No. 2 Kalamazoo Trolley Wheels

"U" Groove

Diameter.....inches	6
Width....."	1¾
Depth of Groove...."	¾
Length of Hub....."	1½
Graphite bushing for ⅝-inch pin.	
Other dimensions to order.	
Graphite bushing for ¾ or 1-inch pin.	
Length of Hub.....inches	2



No. 3 Kalamazoo Trolley Wheels

Deep Groove

Diameter.....inches	6
Width....."	1½
Depth of Groove...."	1
Length of Hub....."	1½
Graphite bushing for ⅝-inch pin.	
Other dimensions to order.	
Graphite bushing for ¾ or 1-inch pin.	
Length of Hub.....inches	2



No. 4 Kalamazoo Trolley Wheels

Extra Wide Groove—Long Hub

Diameter.....inches	6
Width....."	1¾
Depth of Groove...."	1
Length of Hub....."	2

Graphite bushing for ⅝-inch pin.
Graphite bushing for ¾ or 1-inch pin to order.



No. 10 Kalamazoo Trolley Wheels

"U" Groove

Diameter.....inches	5½
Width....."	1½
Depth of Groove...."	¾
Length of Hub....."	3

Graphite bushing for ⅝-inch pin.



Kalamazoo Trolley Wheels are especially designed for high speed roads.
Prices upon application.



No. 17 Kalamazoo Trolley Wheels



Medium Size—Without Oil Chamber

Diameter.....inches $5\frac{3}{4}$
 Width....." $1\frac{1}{2}$
 Depth of Groove... " $\frac{7}{8}$
 Length of Hub....." 2
 Graphite bushing for $\frac{5}{8}$ -inch pin.
 Other dimensions to order.
 Graphite bushing for $\frac{3}{4}$ or 1-inch pin.
 Without bushing.

No. 18 Kalamazoo Trolley Wheels

Extremely Large Groove

Diameter.....inches 6
 Width....." 2
 Depth of Groove " $1\frac{1}{8}$
 Length of Hub.. " 2

Graphite bushing for $\frac{3}{4}$ -inch pin.
 Graphite bushing for 1-inch pin to order.



No. 19 Kalamazoo Trolley Wheels



Medium Size—With Oil Chamber

Diameter.....inches $5\frac{3}{4}$
 Width....." $1\frac{1}{2}$
 Depth of Groove... " $\frac{7}{8}$
 Length of Hub....." 2
 Graphite bushing for $\frac{5}{8}$ -inch pin.
 Other dimensions to order.
 Graphite bushing for $\frac{3}{4}$ or 1-inch pin.

No. 5 Kalamazoo Trolley Wheels

No. 5 "V" Groove No. 15 "U" Groove

Diameter.....inches 5
 Width....." $1\frac{3}{8}$
 Depth of Groove... " $\frac{3}{4}$
 Length of Hub....." $1\frac{1}{2}$

Graphite bushing for $\frac{1}{2}$ -inch pin.
 Graphite bushing for $\frac{5}{8}$ -inch pin to order.



No. 9 Kalamazoo Trolley Wheels



Extra Deep Groove

Diameter.....inches 4
 Width....." $1\frac{3}{8}$
 Depth of Groove... " $\frac{7}{8}$
 Length of Hub....." $1\frac{1}{2}$

Graphite bushing for $\frac{1}{2}$ -inch pin.
 Graphite bushing for $\frac{5}{8}$ -inch pin to order.

Kalamazoo Trolley Wheels are especially designed for high speed roads.
 Prices upon application.

No. 1 Kalamazoo Trolley Harps For 6-Inch Wheels



Made of malleable iron.

The No. 1 Kalamazoo Trolley Harp equipment includes:

Washer No. 133
 Spring No. 219
 Pin No. 2

Dimensions

Size Hole in Shank.....inches 1
 Distance Between Washers " $1\frac{1}{2}$
 Size Cold Rolled Steel Pin. " $\frac{5}{8}$

Other dimensions made to order as follows: $\frac{3}{4}$ -inch pin No. 6, $\frac{3}{4}$ -inch washer No. 134.

Prices upon application.

No. 5 Kalamazoo Trolley Harps For 5-inch Wheels

Made of malleable iron.

The No. 5 Kalamazoo Trolley Harp equipment includes:

Washer No. 129
 Spring No. 218
 Pin No. 1

Dimensions

Size Rod in Shank.....inches $\frac{3}{4}$
 Distance Between Washers. " $1\frac{1}{2}$
 Size Cold Rolled Steel Pin.. " $\frac{1}{2}$

Other dimensions made to order as follows: $\frac{5}{8}$ -inch pin No. 2, $\frac{5}{8}$ -inch washer No. 130.

Prices upon application.



No. 6 Kalamazoo Trolley Harps For No. 10 Wheel Only



Made of malleable iron.

The No. 6 Kalamazoo Trolley Harp equipment includes:

Washer No. 130
 Spring No. 218
 Pin No. 7

Dimensions

Size Rod in Shank.....inches $\frac{3}{4}$
 Distance Between Washers. " 3
 Size Cold Rolled Steel Pin.. " $\frac{5}{8}$

Prices upon application.

No. 7 Kalamazoo Trolley Harps For 6-inch Wheels

Furnished in brass only.

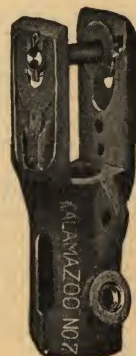
The No. 7 Kalamazoo Trolley Harp equipment includes:

Washer No. 130
 Spring No. 218
 Pin No. 5

Dimensions

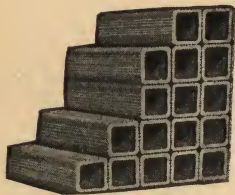
Size Hole in Shank.....inches 2
 Distance Between Washers..... " $1\frac{1}{2}$
 Size Cold Rolled Steel Pin..... " $\frac{5}{8}$

Prices upon application.





Vitrified Clay Conduit



Square Duct, Single

of the most essential features of good conduit. Also the salt glazing of clay is caused by a chemical reaction and few clays are favored with properties giving a successful salt glaze finish.

Single-duct Conduit

Single-duct conduit permits of the breaking of joints. It allows two heavy insulating walls between all cables where multiple duct conduit only allows for one. Single-duct conduit is thus adapted particularly for the building up of high-service trunk lines for the transmission of power and light. It is also used for the construction of single-cable terminals and laterals of low tension and telephone lines.



Round Duct Single

Square Duct, Single					
Length of Piece Feet	Duct Feet in Piece	Approx. Wt., Lbs. per Duct Foot	Diam. Duct Inches	Duct Feet in Min. Carload	Price per Duct Ft.
1.5	1.5	11	3½	5800	\$.25
1.5	1.5	15.3	4½	....	.25
Round Duct, Single					
1.5	1.5	10	3¼	6700	\$.25
1.5	1.5	12	4⅛	5000	.25

Two and Three-duct Multiple Conduit

The two and three-duct standard conduit is intended for the laying of two or three cables in terminals or laterals from the main trunk line, or for the purpose of building up trunk lines to the number of ducts required. On account of the narrow lateral diameter of this ware, it has been found impossible to manufacture this style of conduit in pieces longer than two feet, and insure good, straight pieces. In many cases it will prove cheaper to lay an extra duct in the longer multiple conduit, especially if the future contemplates the use of the extra duct.

Two-duct, Multiple					
Length of Piece Feet	Duct Feet in Pieces	Approx. Wt., Lbs. per Duct Foot	Diam. Duct Inches	Duct Feet in Min. Carload	Price per Duct Ft.
2	4	10	3¼	7500	\$.25
Three-duct, Multiple					
2	6	10	3¼	8200	\$.25

Four, Six and Nine-duct Multiple Conduit

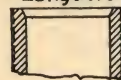
Telephone and telegraph specifications ordinarily demand a larger percentage of four, six or nine-duct than of the smaller forms. These designs are the more economical and permit of considerable saving in installation over the smaller forms. There is no constructive reason why single-duct conduit should take the place of multiples in building up a telephone trunk line. The long multiples present the advantage of economy, constructive simplicity, working efficiency and ease in pulling cables.

Four-duct, Multiple					
Length of Piece Feet	Duct Feet in Pieces	Approx. Wt., Lbs. per Duct Foot	Diam. Duct Inches	Duct Feet in Min. Carload	Price per Duct Ft.
3	12	8	3¼	9300	\$.25
Six-duct, Multiple					
3	18	8	3¼	10000	\$.25
Nine-duct, Multiple					
3	27	10	3¼	10400	\$.25

Vitrified Salt Glazed Clay Conduit



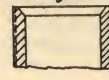
Square Single Length 18"



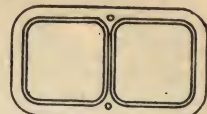
Section A.A.



Round Single Length 18"



Section B.B.



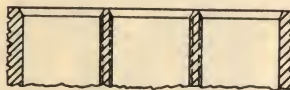
2 Duct Length 24"



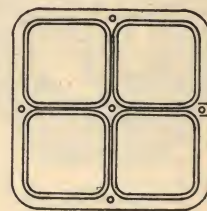
Section C.C.



3 Duct Length 24"



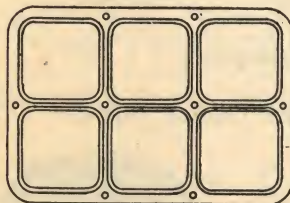
Section D.D.



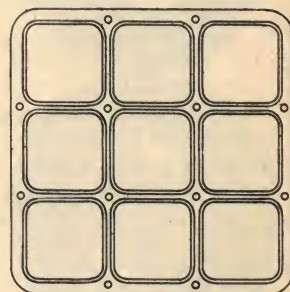
4 Duct Length 36"



Section E.E.



6 Duct Length 36"



9 Duct Length 36"



Section G.G.



Section E.E.

Dowel Pins

Metal dowel pins are made of commercial wrought iron. They are circular in cross section, 3 inches long, 5/16 inches in diameter of shaft, with a thin collar projection mid-way of the shaft to prevent the pin from slipping more than half-way into the conduit hole. C. P. C. Conduit is reamed about the dowel pin holes to allow the conduit pieces to make a close-butt-joint over the dowel pin collar.

Prices upon application.



Orangeburg Fibre Conduit

Socket Joint Type



Socket connections, cut on ends of each length, are automatically turned, slightly tapering, uniform in size.

Inside Diameter Inches	Approx. Net Wt. per Ft. Pounds	Std. Crate Contains Feet	Approx. Wt. Std. Crate Pounds	Price per Foot
2	.90	200	270	\$.10
2½	1.10	200	320	.11
3	1.30	150	285	.12
3½	1.50	125	290	.13
4	1.85	100	280	.15
4½	2.25	100	330	.19

Orangeburg Fibre Conduit

Harrington Joint Type



Ends on each length are tapered; sleeves are tapered also, allowing more swing to the conduit.

Inside Diameter Inches	Approx. Net Wt. per Ft. Pounds	Std. Crate Contains Feet	Approx. Wt. Std. Crate Pounds	Price per Foot
2	.95	200	295	\$.13
2½	1.20	200	355	.14
3	1.40	150	320	.15
3½	1.65	125	320	.16
4	2.00	100	320	.18
4½	2.50	100	380	.23

Orangeburg Fibre Conduit Bends



45° Bend, 36-inch Radius, Socket Joint

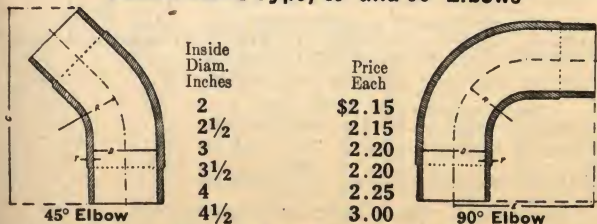
Standard Bends—Five Feet Long

Inside Diam. Inches	Radius Standard 45° and 90° Bends, In.	Radius Standard S Bends, In.	Std. Pkg.	SOCKET JOINT Approx. Wt.		HARRINGTON JOINT Approx. Wt.	
	20-in. Offset	Std. Crate		Price Each	Std. Crate	Price Each	
2	18-24-36	36	25	255	\$1.75	265	\$1.90
2½	24-36	36	25	295	1.80	310	2.00
3	36	36	20	280	1.85	290	2.10
3½	36	36	15	295	2.00	310	2.30
4	36	36	12	295	2.25	305	2.60
4½	36	36	9	250	3.25	260	3.65

Coupling included with each Harrington joint bend.

Orangeburg Fibre Conduit Fittings

Socket Joint Type, 45° and 90° Elbows



Inside Diam. Inches	Price		Inside Diam. Inches	Price	
	45° and 90° Elbows	Extra Couplings		45° and 90° Elbows	Extra Couplings
2	\$2.25	\$.10	3½	\$2.35	\$.14
2½	2.25	.11	4	2.45	.16
3	2.35	.12	4½	3.25	.20

One coupling included with each elbow.

Creosoted Wood Conduit



This material is manufactured from yellow pine at the plants at Norfolk, Virginia, and Atlanta, Georgia and from Douglas fir at our plant at Tacoma, Washington; creosoted full vacuum treatment is the most economical and satisfactory conduit for the carrying of all forms of lead cable and wires. It is 4½x4½ inches outside measurement and comes in random lengths. Has a three-inch hole in center, a mortise at one end and a tenon on the other. Its cost of laying is low compared with other conduits and when repairs to wires are necessary it is easily accessible.

It is in general use by the large telegraph companies and telephone companies all over the country and by many railroads.

Uses for which it is adapted:

RAILROADS.—Trunking, underground signal wires, high tension transmission lines, yard drainage where clay conduit is easily broken through, and system is usually placed on the surface of the ground.

TELEPHONE COMPANIES.—All underground work.

TELEGRAPH COMPANIES.—All underground work.

POLICE AND FIRE ALARM SYSTEMS.—For carrying wires, either high or low tension under ground.

CENTRAL STATIONS.—For distribution mains and services.

SPECIFICATION CREOSOTED CONDUIT.—Free from large, unsound or loose knots, or other defects which would impair strength. Creosoted steam and vacuum treatment, dead oil of coal tar under pressure either 12 pounds per cubic foot (full cell) or 8 pounds per cubic foot (empty cell) as ordered.

Any additional information regarding the practicability of installing this conduit will be furnished upon request.

Prices on application.



G & W Potheads



Wherever the sheath of an insulated cable ends it is necessary to provide a seal. At the end of a cable this seal takes the form of a pot for holding sealing compound and, since this pot is also the head of the cable, it is called a pothead. A pothead serves not only as a cable seal, but is also a medium through which the spacing of conductors is changed from that used in a lead cable to the spacing necessary for aerial conductors. The top of an outdoor pothead should be such as to be safe against any short circuiting due to ice, snow and water or linemen's tools accidentally dropped, etc., and at the same time it should be possible to train the conductors away from the

pothead to the cross-arm neatly and without excessively loose wiring which might be blown together in the wind.

G & W Potheads and Boxes are specially designed to make these necessary fittings 100 per cent useful, operating accessories. In all potheads and boxes the prime object, a cable seal, is most carefully provided. In addition, though, to giving merely a cable seal, practically every design can be furnished as a disconnective as well as a cable seal.

Where disconnecting potheads are used on any system, provision for emergency feeds, temporary or permanent cut-overs, in fact any form of circuit change or revision, becomes largely a matter of opening and closing potheads. In a case where two or more circuits come together on one pole or pass through the same manhole, emergency connection between the two is accomplished by interconnections of the potheads.

In manhole work the G & W Switching Box gives the same simple flexibility of the disconnecting pothead. All switching is done from the top of the box by simply pulling off or plugging on porcelain covered jumpers. No bolts to unscrew; no heavy lids to lift.

In some classes of installations near switchboards or switch- es and such inside work, the disconnecting feature is not needed and for these, non-disconnecting types are supplied. Quite frequently it becomes necessary to install inside potheads in cramped spaces such as in corners, behind switchboards, on bus structures, etc. In order to train the cables away from the pothead to best advantage, special shapes of potheads should be used. G & W Potheads are furnished in a wide range of shapes which will lend themselves to installation in practically any position that is ever found necessary.

In addition to a selection of shapes G & W Potheads for inside work are offered in a variety of types, including a small porcelain bell, cast iron bells with porcelain outlets, brass bells with porcelain lids, etc. The choice of any pothead for any special work is governed largely by the place which it is to occupy. In some cases appearance is the main point of consideration, in other cases compactness is desired and again utility is all that is sought. A full selection covering all these points is found in the G & W line of Potheads for inside use.

At splices, taps or sectionalizing points waterproof boxes of various designs are used. The G & W line of Subway Boxes for this work is very complete; practically any style of box from the plain split cast iron box up to the most completely equipped distribution box can be furnished from stock patterns.

Blue prints and specifications will be furnished upon receipt of specifications giving the voltage, size of conductors and combination of cables which it is desired to handle.

Instructions for Ordering

When ordering potheads or subway junction boxes, be sure to specify:

Outside diameter of cable over lead.

Number of conductors in cable.

If two-conductor, whether circular or oblong in cross section.

If oblong, give both dimensions.

Voltages upon which the device is to operate.

Size of conductors.

Whether device will be exposed to the weather; that is, whether for outside or inside use.

If compound is wanted.

If potheads wanted are disconnecting or non-disconnecting.

If subway junction boxes are wanted for fuses or switch blades. Pipe connection, armored cable or wiping sleeve.

G & W Potheads



At an
Emergency
Center



At the Point
of Transformation



At the Point
of Control

Instructions for Ordering

Order by Catalogue Number. Give information listed.

Operating voltage; outdoor or indoor use; number of conductors, disconnecting or non-disconnecting; size of conductors; shape of pothead, outside diameter of cable; type of cable entrance, size of conduit; type of conduit joint (threaded, socket or sleeve); diameter of armored cable and armor clamp or hood.

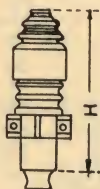
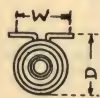
Single Conductor

Outdoor or Indoor Use

Porcelain Cable Entrance

Disconnecting, 6600 Volts

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Bore Porcelain In.	Type Connector	Price Each
S150P	100	1 1/2	1 5/8	S	\$6.50
S151P	175	1 1/2	1 5/8	S	9.50
S155P	500	1 1/2	1 5/8	TS	11.25
S158P	1000	2	2 1/8	TS	17.00



Disconnecting, 15000 Volts

S170P	100	1 3/4	1 3/8	S	\$15.00
S171P	175	1 3/4	1 3/8	S	18.00
S175P	500	1 3/4	1 3/8	TS	19.50
S178P	1000	2	2 1/8	TS	25.50

Non-disconnecting, 6600 Volts

O156P	600Mem	1 1/2	1 5/8	O	\$5.00
O158P	1000Mem	2	2 1/8	O	8.00

Non-disconnecting, 15000 Volts

O176P	600Mem	1 3/4	1 3/8	O	\$13.50
O178P	1000Mem	2	2 1/8	O	19.50

Stuffing Box or Wiping Sleeve Cable Entrance

Disconnecting, 6600 Volts

Stuffing Box	Cat. Nos.	Wiping Sleeve	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Price Each
S150SB	S150WS		100	2	S	\$10.50
S151SB	S151WS		175	2	S	13.50
S155SB	S155WS		500	2	TS	15.25
S158SB	S158WS		1000	2	TS	21.50
S158ASB	S158AWS		1000	3	TS	25.50

Disconnecting, 15000 Volts

S170SB	S170WS		100	2	S	\$19.50
S171SB	S171WS		175	2	S	22.50
S175SB	S175WS		500	2	TS	24.00
S178SB	S178WS		1000	2	TS	36.00
S178ASB	S178AWS		1000	3	TS	40.00

Non-disconnecting, 6600 Volts

O156SB	O156WS		600Mem	2	O	\$9.00
O158SB	O158WS		1000Mem	2	O	12.50

Non-disconnecting, 15000 Volts

I176SB	O176WS		600Mem	2	O	\$18.00
O178ASB	O178AWS		1000Mem	3	O	28.00
O17XASB	O17XAWS		2000Mem	3	O	52.00

Non-disconnecting, 35000 Volts

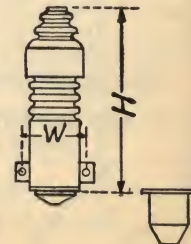
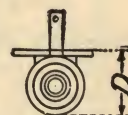
O195CR	O195WS		500Mem	3	O	\$42.50
O198CR	O198WS		1000Mem	3	O	48.00

CN195CR	CN195WS		500Mem	4 1/2 (Cap Nut)		120.00
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Potheads for other voltages on request.

To mount single conductor potheads directly onto conduit or where an armor hood is desired, the stuffing box (SB) should be ordered. If combination clamping ring and stuffing box is wanted, add \$2.50 to price and use (CR) instead of (SB) in Cat. No.

Conduit couplings, \$3.00 extra. Armor clamps, \$2.00 extra. Armor hoods, \$3.00 extra.





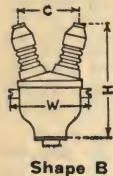
G & W Potheads

Two Conductor—Form L—Small Body

6600 Volts Outdoor or 13200 Volts Indoor

Shape B

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250B	100	2	LS	21	\$18.50
* 100	3	LS	*	*	*
LS251B	175	2	LTS	23	23.50
* 175	3	LTS	*	*	*
LS252B	250	2	LTS	24	25.50
* 250	3	LTS	*	*	*



Shape B

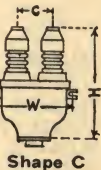
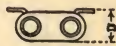
Non-disconnecting

LO252B	3/0B&S	2	LO	21	\$15.50
* 3/0B&S	3	LO	*	*	*
LO253B	250Mcm	2	LO	22	18.00
* 350Mcm	3	LO	*	*	*

These sizes require 1/4 gallon of compound.
*See Shape D.

Shape C

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250C	100	2	LS	30	\$19.50
LS250AC	100	3	LS	36	21.50
LS251C	175	2	LTS	33	24.50
LS251AC	175	3	LTS	39	26.50
LS252C	250	2	LTS	34	27.00
LS252AC	250	3	LTS	40	29.00



Shape C

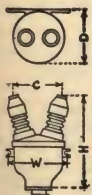
Non-disconnecting

LO252C	3/0B&S	2	LO	30	\$16.50
LO252AC	3/0B&S	3	LO	36	18.50
LO253C	250Mcm	2	LO	30	19.00
LO254AC	350Mcm	3	LO	36	21.00

The 2-inch sizes require 3/4 gallon of compound. The 3-inch sizes require 1 1/4 gallons

Shape D

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250D	100	2	LS	23	\$19.50
LS250AD	100	3	LS	24	20.50
LS251D	175	2	LTS	25	24.50
LS251AD	175	3	LTS	26	25.50
LS252D	250	2	LTS	25	27.00
LS252AD	250	3	LTS	26	28.00



Shape D

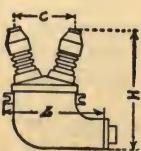
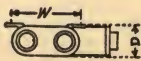
Non-disconnecting

LO252D	3/0B&S	2	LO	23	\$16.50
LO252AD	3/0B&S	3	LO	24	17.50
LO253D	250Mcm	2	LO	23	19.00
LO254AD	350Mcm	3	LO	24	20.00

These sizes require 1/2 gallon of compound.

Shape K

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250K	100	2	LS	25	\$23.25
LS250AK	100	3	LS	40	27.75
LS251K	175	2	LTS	28	28.25
LS251AK	175	3	LTS	44	32.75
LS252K	250	2	LTS	28	31.25
LS252AK	250	3	LTS	45	36.75



Shape K Mounted Left or Right

Non-disconnecting

LO252K	3/0B&S	2	LO	25	\$20.25
LO252AK	3/0B&S	3	LO	40	24.75
LO253K	250Mcm	2	LO	25	23.25
LO254AK	350Mcm	3	LO	40	28.75

The 2-inch sizes require 1 gallon of compound. The 3-inch sizes require 2 gallons.

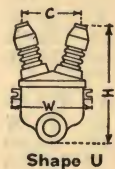
G & W Potheads

Two Conductor—Form L—Small Body

6600 Volts Outdoor or 13200 Volts Indoor

Shape U

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250U	100	2	LS	30	\$23.25
LS250AU	100	3	LS	40	29.75
LS251U	175	2	LTS	33	28.25
LS251AU	175	3	LTS	42	34.75
LS252U	250	2	LTS	33	31.25
LS252AU	250	3	LTS	42	38.75



Shape U

Disconnecting

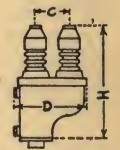
Non-disconnecting

LO252U	3/0B&S	2	LO	30	\$20.25
LO252AU	3/0B&S	3	LO	42	26.75
LO253U	250Mcm	2	LO	30	23.25
LO254AU	350Mcm	3	LO	42	30.75

The 2-inch sizes require 1 gallon of compound. The 3-inch sizes require 1 1/2 gallons.

Shape W

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250W	100	2	LS	25	\$21.25
LS250AW	100	3	LS	29	25.75
LS251W	175	2	LTS	26	26.75
LS251AW	175	3	LTS	31	30.75
LS252W	250	2	LTS	27	29.75
LS252AW	250	3	LTS	31	34.75



Shape W

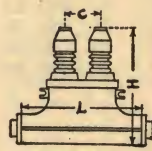
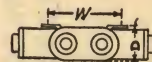
Non-disconnecting

LO252W	3/0B&S	2	LO	25	\$18.25
LO252AW	3/0B&S	3	LO	29	22.75
LO253W	250Mcm	2	LO	25	21.25
LO254AW	350Mcm	3	LO	29	26.75

The 2-inch sizes require 1 gallon of compound. The 3-inch sizes require 1 1/2 gallons.

Shape Z

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250AZ	100	3	LS	65	\$38.50
LS251AZ	175	3	LTS	69	43.75
LS252AZ	250	3	LTS	70	48.00



Shape Z

Disconnecting

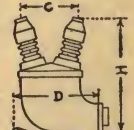
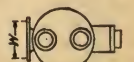
Non-disconnecting

LO252AZ	3/0B&S	3	LO	65	\$35.25
LO254AZ	350Mcm	3	LO	65	39.50

These sizes require 2 gallons of compound.

Shape DK

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Connector	Approx. Ship. Wt., Lbs.	Price Each
LS250ADK	100	3	LS	30	\$27.50
LS251ADK	175	3	LTS	32	32.75
LS252ADK	250	3	LTS	32	37.00



Shape DK

Non-disconnecting

LO252ADK	3/0B&S	3	LO	30	\$24.25
LO254ADK	350Mcm	3	LO	30	28.50

Universal elbow-bolted bracket for mounting right, left or front.

These sizes require 3/4 gallon of compound.

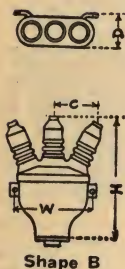


G & W Potheads

Three Conductor—Form L—Small Body

6600 Volts Outdoor or 13200 Volts Indoor

Shape B

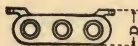


Disconnecting					
Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
LS350B	100	2	LS	25	\$24.00
LS350AB	100	3	LS	27	25.25
LS351B	175	2	LTS	28	31.00
LS351AB	175	3	LTS	28	32.25
LS352B	250	2	LTS	28	34.00
LS352AB	250	3	LTS	30	35.50
Non-disconnecting					
LO352B	3/0B&S	2	LO	25	\$19.60
LO352AB	3/0B&S	3	LO	27	21.00
LO353B	250Mcm	2	LO	26	23.00
LO354AB	350Mcm	3	LO	28	24.25

These sizes require 1/2 gallon of compound.

Shape C

Disconnecting

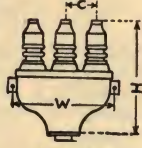


Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
LS350AC	100	2	LS	40	\$28.00
LS351AC	175	3	LTS	44	35.00
LS352AC	250	3	LTS	45	38.75

LTS in this shape is not recommended. Use shape B.

Non-disconnecting					
LO352AC	3/0B&S	3	LO	40	\$24.00
LO354AC	305Mcm	3	LO	40	27.50

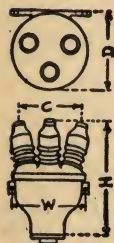
These sizes require 1 1/4 gallons of compound.



Shape C

Shape D

Disconnecting



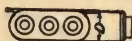
Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
LS350D	100	2	LS	25	\$23.50
LS350AD	100	3	LS	26	24.75
LS351D	175	2	LTS	27	30.50
LS351AD	175	3	LTS	28	31.75
LS352D	250	2	LTS	27	32.75
LS352AD	250	3	LTS	28	34.00

Non-disconnecting					
LO352D	3/0B&S	2	LO	25	\$19.25
LO352AD	3/0B&S	3	LO	26	20.50
LO353D	250Mcm	2	LO	25	21.50
LO354AD	350Mcm	3	LO	26	23.00

These sizes require 1/2 gallon of compound.

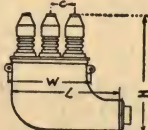
Shape K

Disconnecting



Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
*LS350K	100	2	LS	30	\$30.75
LS350AK	100	3	LS	43	35.50
*LS351K	175	2	LTS	31	38.75
*LS351AK	175	3	LTS	46	43.50
*LS352K	250	2	LTS	31	42.00
*LS352AK	250	3	LTS	47	47.75

Non-disconnecting					
*LO352K	3/0B&S	2	LO	30	\$26.00
LO352AK	3/0BKS	3	LO	42	30.75
*LO353K	250Mcm	2	LO	30	29.00
LO354AK	350Mcm	3	LO	42	35.00

Shape K
Mounted Left
or Right

The 2-inch sizes require 1 gallon of compound. The 3-inch sizes require 2 gallons.

*Diverging porcelain as in Shape B.

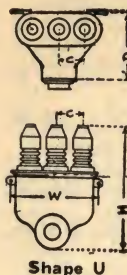
G & W Potheads

Three Conductor—Form L—Small Body

6600 Volts Outdoor or 13200 Volts Indoor

Shape U

Disconnecting



Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
*LS350U	100	2	LS	32	\$30.75
LS350AU	100	3	LS	42	37.50
*LS351U	175	2	LTS	36	38.75
*LS351AU	175	3	LTS	46	45.50
*LS352U	250	2	LTS	36	42.00
*LS352AU	250	3	LTS	46	50.00

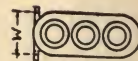
Non-disconnecting

*LO352U	3/0B&S	2	LO	32	\$26.00
LO352AU	3/0B&S	3	LO	42	32.75
*LO353U	250Mcm	2	LO	32	29.00
LO354AU	350Mcm	3	LO	42	37.00

The 2-inch sizes require 1 gallon of compound. The 3-inch sizes require 1 1/2 gallons.

Shape W

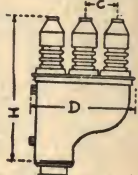
Disconnecting



Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
*LS350W	100	2	LS	26	\$28.50
LS350AW	100	3	LS	31	33.25
*LS351W	175	2	LTS	30	36.50
*LS351AW	175	3	LTS	35	41.25
*LS352W	250	2	LTS	31	39.75
*LS352AW	250	3	LTS	35	45.75

Non-disconnecting

*LO352W	3/0B&S	2	LO	26	\$23.75
LO352AW	3/0B&S	3	LO	31	28.50
*LO353W	250Mcm	2	LO	26	27.00
LO354AW	350Mcm	3	LO	31	32.75

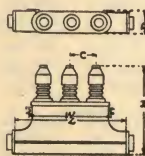


Shape W

The 2-inch sizes require 1 gallon of compound. The 3-inch sizes require 1 1/2 gallons.

Shape Z

Disconnecting



Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
LS350AZ	100	3	LS	67	\$44.25
LS351AZ	175	3	LTS	74	52.25
LS352AZ	250	3	LTS	75	56.50

Non-disconnecting

LO352AZ	3/0B&S	3	LO	67	\$39.50
LO354AZ	350Mcm	3	LO	67	43.75

Shape Z

These sizes require 2 gallons of compound.

Shape DK

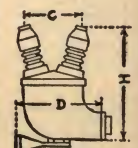
Disconnecting



Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each
LS350ADK	100	3	LS	32	\$33.50
LS351ADK	175	3	LTS	34	41.25
LS352ADK	250	3	LTS	34	45.75

Non-disconnecting

LO352ADK	3/0B&S	3	LO	32	\$28.50
LO354ADK	350Mcm	3	LO	32	32.75



Shape DK

Universal elbow bolted bracket for mounting right, left or front.

These sizes require 2 gallons of compound.

*Diverging porcelain as in Shape B.

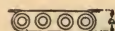


G & W Potheads

Four Conductor—Form L—Small Body

6600 Volts Outdoor or 13200 Volts Indoor

Shape B



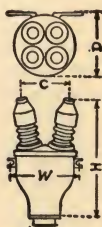
Disconnecting						
Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450AB	100	3	LS	38	\$36.75	
LS451AB	175	3	LTS	42	47.50	
LS452AB	200	3	LTS	44	53.00	
Non-disconnecting						
LO452AB	3/0B&S	3	LO	38	\$30.50	
LO454AB	350Mem	3	LO	38	35.75	

These sizes require 1½ gallons of compound.

Shape D

Disconnecting

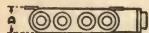
Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450D	100	2	LS	27	\$30.50	
LS450AD	100	3	LS	28	31.00	
LS451A	175	2	LTS	29	40.50	
LS451AD	175	3	LTS	30	41.50	
LS452D	250	2	LTS	29	43.00	
LS452AD	250	3	LTS	30	44.00	
Non-disconnecting						
LO452D	3/0B&S	2	LO	27	\$24.50	
LO452AD	3/0B&S	3	LO	28	25.50	
LO453D	250Mem	2	LO	27	27.00	
LO454AD	350Mem	3	LO	28	28.00	



Shape D

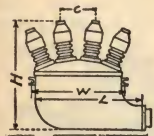
These sizes require ½ gallon of compound.

Shape K



Disconnecting

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450AK	100	3	LS	50	\$43.50	
LS451AK	175	3	LTS	55	54.25	
LS451AK	250	3	LTS	58	59.50	
Non-disconnecting						
LO452AK	3/0B&S	3	LO	50	\$37.00	
LO454AK	350Mem	3	LO	52	42.50	



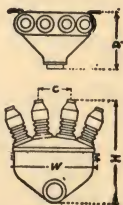
Shape K

These sizes require 2 gallons of compound.
Mounted right or left.

Shape U

Disconnecting

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450AU	100	3	LS	46	\$45.50	
LS451AU	175	3	LTS	50	56.25	
LS452AU	250	3	LTS	53	61.50	
Non-disconnecting						
LO452AU	3/0B&S	3	LO	46	\$39.25	
LO454AU	350Mem	3	LO	46	44.50	



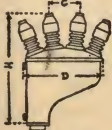
Shape U

These sizes require 1½ gallons of compound.

Shape W

Disconnecting

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450AW	100	3	LS	36	\$41.25	
LS451AW	175	3	LTS	42	52.00	
LS452AW	250	3	LTS	44	57.25	
Non-disconnecting						
LO452AW	3/0B&S	3	LO	36	\$35.00	
LO454AW	350Mem	3	LO	36	40.25	



Shape W

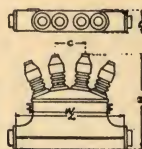
These sizes require 1½ gallons of compound.

G & W Potheads

Four Conductor—Form L—Small Body

6600 Volts Outdoor or 13200 Volts Indoor

Shape Z



Shape Z

Disconnecting

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450AZ	100	3	LS	73	\$52.25	
LS451AZ	175	3	LTS	81	63.00	
LS452AZ	250	3	LTS	81	68.25	

Non-disconnecting

LO452AZ	3/0B&S	3	LO	73	\$46.00	
LO454AZ	350Mem	3	LO	73	51.25	

These sizes require 2 gallons of compound.

Shape DK

Disconnecting

Cat. No.	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS450ADK	100	3	LS	34	\$39.25	
LS451ADK	175	3	LTS	36	50.00	
LS452ADK	250	3	LTS	36	54.25	

Non-disconnecting

LO452ADK	3/0B&S	3	LO	34	\$32.75	
LO454ADK	350Mem	3	LO	34	37.00	



Shape DK

These sizes require ¾ gallon of compound.
Universal elbow-bolted bracket for mounting right, left or front.

Five, Six, Eight, Ten and Twelve Conductor Form L—Small Body

6600 Volts Outdoor or Indoor

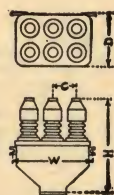
Shape G

Disconnecting

Cat. No.	No. of Conduc- tors	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS550AD	5	100	3	LS	50	\$42.50	
LS650AG	6	100	3	LS	85	51.00	
LS850AG	8	100	3	LS	125	64.00	
LS1050AG	10	100	3	LS	150	78.00	
LS1250AG	12	100	3	LS	160	91.00	

Non-disconnecting

LO550AD	5	250Mem	3	LO	50	\$38.00	
LO652AG	6	250Mem	3	LO	85	48.00	
LO852AG	8	250Mem	3	LO	125	59.00	
LO1052AG	10	250Mem	3	LO	150	71.00	
LO1252AG	12	250Mem	3	LO	160	82.00	



Shape G

The 5-conductor sizes require 1¼ gallons of compound;
6-conductor sizes, 2½; 8-conductor sizes, 3; 10 and 12 con-
ductor sizes, 6.

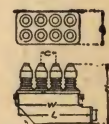
Shape GK

Disconnecting

Cat. No.	No. of Conduc- tors	Max. Amp. or Cond.	Max. Diam. Cable In.	Type Con- nector	Approx. Ship. Wt., Lbs.	Price Each	
LS850AGK	8	100	3	LS	150	\$72.00	

Non-disconnecting

LO852AGK	8	250Mem	3	LO	150	\$67.00	
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Shape GK

These sizes require 3½ gallons of compound.

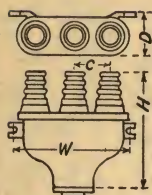


G & W Potheads

Three Conductor—Form N—Non-disconnecting

Indoor Only—Without Connectors

Shape C

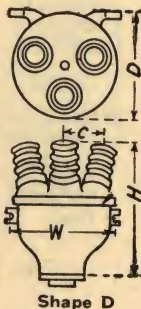


Shape C

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352C	3/0B&S	2	3/4	22	\$15.00	
N352AC	3/0B&S	3 1/2	1 1/4	26	18.25	
N353C	300Mem	2	3/4	22	17.75	
N356AC	600Mem	3 1/2	1 1/4	30	22.00	
N358AB	1000Mem	3 1/2	2	60	36.50	
15000 Volts						
N372C	3/0B&S	2	3/4	22	\$17.75	
N372AC	3/0B&S	3 1/2	1 1/4	26	22.50	
N373C	300Mem	2	3/4	22	20.50	
N376AC	600Mem	3 1/2	1 1/4	30	26.95	
N378AB	1000Mem	4 1/2	2	60	39.50	
35000 Volts						
N394AB	400Mem	4 1/2	15	265	\$100.00	

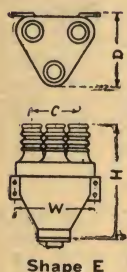
Shape D

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352D	3/0B&S	2	1 1/2	20	\$15.00	
N352AD	3/0B&S	3 1/2	1 1/2	21	18.25	
N353D	300Mem	2	1 1/2	21	17.75	
N353AD	300Mem	3 1/2	1 1/2	22	22.00	
N356AD	600Mem	3 1/2	1 1/2	40	27.00	
N358AD	1000Mem	3 1/2	2 1/2	53	38.50	
15000 Volts						
N372D	3/0B&S	2	1 1/2	20	\$17.75	
N372AD	3/0B&S	3 1/2	1 1/2	21	22.40	
N373D	300Mem	2	1 1/2	21	20.50	
N373AD	300Mem	3 1/2	1 1/2	22	26.25	
N376AD	600Mem	3 1/2	1 1/2	40	30.00	
N378AD	1000Mem	3 1/2	2 1/2	53	41.50	
35000 Volts						
N394AD	400Mem	4 1/2	7 1/2	205	\$100.00	



Shape D

Shape E

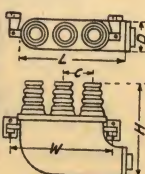


Shape E

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352E	250Mem	2	1 3/8	43	\$17.75	
N352AE	250Mem	3 1/2	1 1/2	45	20.75	
N356AE	600Mem	3 1/2	1 1/2	45	26.00	
N358AE	1000Mem	3 1/2	1 1/2	48	36.50	
15000 Volts						
N372E	250Mem	2	1 3/8	43	\$22.25	
N372AE	250Mem	3 1/2	1 1/2	45	25.00	
N376AE	600Mem	3 1/2	1 1/2	45	30.50	
N378AE	1000Mem	4 1/2	1 1/2	48	40.00	

Shape K

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352K	3/0B&S	2	1	27	\$16.75	
N352AK	3/0B&S	3 1/2	2	40	21.25	
N353K	300Mem	2	1	27	19.50	
N356AK	600Mem	3 1/2	2	40	25.00	
N358AK	1000Mem	3 1/2	2	100	43.50	
15000 Volts						
N372K	3/0B&S	2	1	27	\$19.50	
N372AK	3/0B&S	3 1/2	2	40	25.50	
N373K	300Mem	2	1	27	22.50	
N376AK	600Mem	3 1/2	2	40	29.50	
N378AK	1000Mem	4 1/2	2	100	45.50	



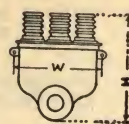
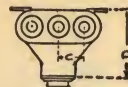
Shape K Mounted Right or Left

G & W Potheads

Three Conductor—Form N—Non-disconnecting

Indoor Only—Without Connectors

Shape U

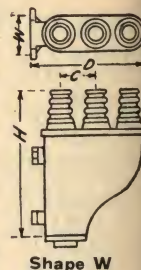


Shape U

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352U	3/0B&S	2	1	27	\$17.25	
N352AU	3/0B&S	3 1/2	1 1/2	37	22.00	
N353U	300Mem	2	1	27	20.25	
N356AU	600Mem	3 1/2	1 1/2	41	26.00	
15000 Volts						
N372U	3/0B&S	2	1	27	\$20.25	
N372AU	3/0B&S	3 1/2	1 1/2	37	26.50	
N373U	300Mem	2	1	27	23.25	
N376AU	600Mem	3 1/2	1 1/2	41	30.50	

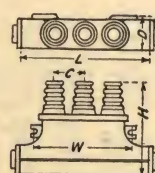
Shape W

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352W	3/0B&S	2	1	22	\$15.00	
N352AW	3/0B&S	3 1/2	1 1/2	28	18.25	
N353W	300Mem	2	1	22	17.75	
N356AW	600Mem	3 1/2	1 1/2	31	22.00	
N358AW	1000Mem	3 1/2	2	65	36.50	
15000 Volts						
N372W	3/0B&S	2	1	22	\$17.75	
N372AW	3/0B&S	3 1/2	1 1/2	28	22.50	
N373W	300Mem	2	1	22	20.50	
N373AW	600Mem	3 1/2	1 1/2	31	26.25	
N378AW	1000Mem	4 1/2	2	65	39.50	



Shape W

Shape Z



Shape Z

6600 Volts						
Cat. No.	Max. Amp. of Conductor	Max. Diam. Cable In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
N352AZ	3/0B&S	3 1/2	2	62	\$33.00	
N356AZ	600Mem	3 1/2	2	65	38.40	
15000 Volts						
N372AZ	3/0B&S	3 1/2	2	62	\$38.40	
N376AZ	600Mem	3 1/2	2	65	41.75	

Form Q—Small—No Connectors

Indoor Use Only

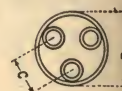
13200 Volts

Porcelain bell and cover. Metal cable

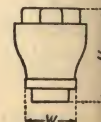
entrance.

Supporting bracket furnished only when

specified.



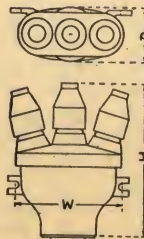
Cat. No.	No. of Conductors	Max. Diam. Cable In.	Bore of Porcelain In.	Com-pound Req'd Gals.	Approx. Ship. Wt., Lbs.	Price Each	
Q263D	2	2 7/8	1 1/4	1/4	8	\$8.20	
Q363D	3	2 7/8	1 1/4	1/4	8	8.20	
Q463D	4	2 7/8	1 1/4	1/4	8	8.20	
1AF2	Supporting Bracket.				2	1.60	



Form LC Low Tension Potheads

Outdoor or Indoor Use

1000 Volts



Cat. No.	Max. Size Conductor	No. of Conductors	Max. Diam. Cable In.	Approx. Ship. Wt., Lbs.	Price Each	
LC232B	3/0B&S	2	2	18	\$10.25	
LC233B	300Mem	2	2	19	13.00	
LC332B	3/0B&S	3	2	22	11.25	
LC333B	300Mem	3	2	24	15.00	
LC432AB	3/0B&S	4	3	33	16.25	
LC433AB	300Mem	4	3	34	21.00	

Bore of porcelain tube is 1 inch.

2-conductor sizes require 1/4 gallon of compound; 3-conductor sizes, 1/2; 4-conductor sizes, 1 1/4 gallons.



G & W Type K Boxes

Low Tension Lighting System Taps—Eliminates
Wiping Lead Joints
250 Volts—0-30 Amperes



For Multiple Conductor Cable

merged in compound. Taps are taken from the cable into the fuse-clips. Box proper is cast in two pieces, being divided horizontally through axes of the holes for the cable entrances. This construction eliminates all cable wiping, since the holes are drilled to fit the cable tightly and the drawing together of the two halves of the box holds it securely. The compound that is poured into the box seals the cable.

The tap connection is taken out of the box through porcelain bushings in the front face of the box in case lead-enclosed cable is not used. If lead-covered cable is used, the same split form of entrance is used as for other cables. Width mounting dimension, $9\frac{1}{2}$ inches. Height, 5 inches. Depth, 7 inches. $\frac{1}{4}$ gallon of compound is required.

Cat. No.	No. of Conductors	For Cable	Approx. Ship. Wt., Lbs.	Price Each
61210S	2	Single-conductor	25	\$16.00
61310S	3	"	26	17.00
61210M	2	Multiple	24	15.00
61310M	3	"	25	16.00
61010	Plain Box and Lid without Fuse Blocks		22	11.60

Schuster Conduit Bells



Affords a neat and most effective cap for conduit either outdoors or indoors. A vertical run of cable has a tendency to settle and gradually creep downwards unless it is firmly supported. The Schuster Bell with its flared mouth provides a positive support for the cables and eliminates any chance of injury to the sheath of the cable from the edges of conduit. Easy to install; after the cables are drawn in, a little paper or waste is stuffed into the top of the conduit and the bell is filled with cement or any hard weatherproof compound.

waste is stuffed into the top of the conduit and the bell is filled with cement or any hard weatherproof compound.

Pipe In.	Price Each	Pipe In.	Price Each	Pipe In.	Price Each	Pipe In.	Price Each
2	\$2.00	3	\$2.65	*4	\$10.65	*6	\$16.65
2 $\frac{1}{2}$	2.35	*3 $\frac{1}{2}$	9.35	*5	13.35	..	.....

*Made in cast bronze.

Minerallac

Minerallac No. 20 is a semi-solid compound for low tension work (below 2000 volts). Used for low tension pot-heads and junction boxes.

Dielectric strength, 750 volts per mil. Specific inductive capacity is very low (1.98 at 75° F.). Melting point, 260° F. Flash point, 650° F.

Standard case, 12 one-gallon cans. Shipping weight, 115 pounds.

Contained in 1-gallon, $\frac{1}{2}$ -gallon, 1-quart and 1-pint cans.

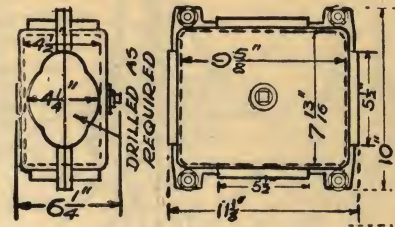
Prices	
Minerallac No. 1, 2A, 64 and 78.	High tension compound.
Less than 12 Gallons	per gallon net \$2.00
12 to 23 Gallons	discount 5%
24 Gallons or More	" 10%
Less than 1-gallon Cans	add to list 25%
Minerallac No. 20 (Low Tension Compound)	per gallon \$7.75

Compound is supplied on pothead orders at gallon prices regardless of container.

G & W Splice Boxes

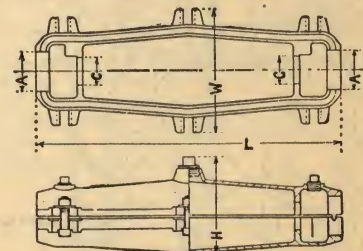
Cast Iron Boxes for Permanently Sealing Joints and Splices

Plain Junction Boxes



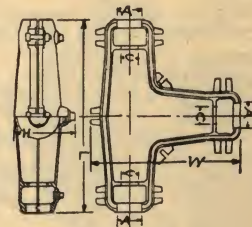
Cat. No.	C Max. Diam. Lead Sheath Inches	A Max. Diam. Armor Inches	Approx. Ship. Wt., Lbs	Compound Required Gallons	Price Each
700	*	†	60	1 $\frac{1}{2}$	\$11.20

Straight Splice Boxes



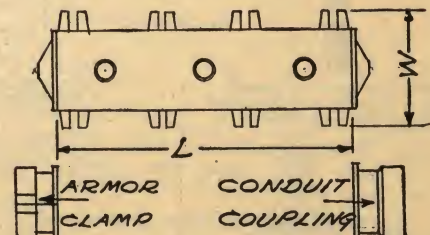
Cat. No.	Max. Diam. Lead Sheath Inches	Max. Diam. Armor Inches	Approx. Ship. Wt., Lbs	Compound Required Gallons	Price Each
702	1 $\frac{1}{8}$	1 $\frac{3}{4}$	15	1 $\frac{1}{2}$	\$5.20
704	1 $\frac{3}{4}$	2 $\frac{1}{2}$	25	1	6.40
706	2 $\frac{1}{2}$	3 $\frac{1}{4}$	40	1 $\frac{1}{2}$	8.00
708	3	3 $\frac{3}{4}$	50	2	16.00

Tee Splice Boxes



Cat. No.	Max. Diam. Lead Sheath Inches	Max. Diam. Armor Inches	Approx. Ship. Wt., Lbs	Compound Required Gallons	Price Each
712	1 $\frac{1}{8}$	1 $\frac{3}{4}$	20	$\frac{3}{4}$	\$7.20
714	1 $\frac{3}{4}$	2 $\frac{1}{2}$	30	1 $\frac{1}{4}$	9.60
716	2 $\frac{1}{2}$	3 $\frac{1}{4}$	60	2	19.20

Straight Splice Boxes



Cat. No.	Max. Diam. Lead Sheath Inches	Max. Diam. Armor Inches	Approx. Ship. Wt., Lbs	Compound Required Gallons	Price Each
769	3 $\frac{1}{2}$	3 $\frac{3}{8}$	40	1	\$12.00

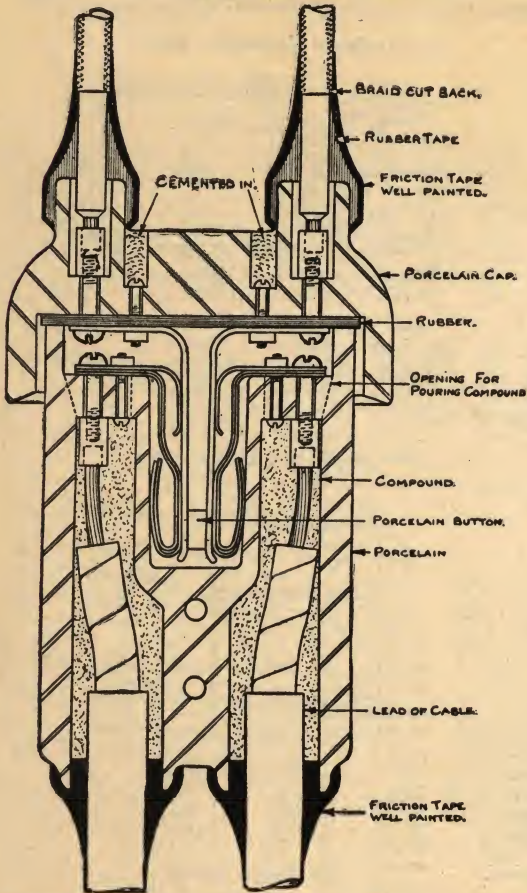
*Drilled as specified for single or multiple conductor cable.
†Standard armor clamp can be attached (extra) or box may be drilled to size of armor.

For conduit coupling on No. 700 or No. 769 box add \$3.00 each. For armor clamp on No. 700 or No. 769 box add \$2.00 each. Compound, No. 20 (low tension); 75 cents per gallon. Compound, No. 78 (high tension); \$2.00 per gallon.



G & W Series Cutouts

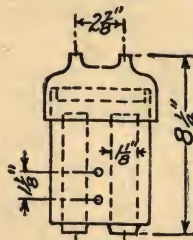
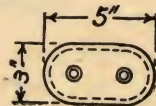
Disconnecting Series Potheads for Ends of Underground Cable



Cross-section of Series Cut-out, Showing Connections Made to Cables, Sealing and Taping



Series Cut-out for Single Conductor Cable, with Grounding Clamps and Bracket



Dimensions of Single Conductor Cut-out

Pothead chambers for sealing cable. With or without cut-out. Porcelain body, small size, absolute disconnection mechanically as well as electrically.

Series Cut-out for Lead Cables

Weight, No. 151	lbs.	5
Compound Required	pint	1/4
Price, No. 151 For Single Conductor	each	\$5.35
" " 151A With Film Cut-outs	"	6.00
" " 151WS With Metal End and Wiping Sleeves	"	9.00
" " 151BK Supporting Brackets	"	1.00
" " 151TP Test Plugs	"	2.65
" " 151GB Grounding Clamps and Bracket	"	1.35
" " P23C Porcelain Reducing Bushing	"	.20

G-E Insulating Material

Sealing and Filling Compounds



Pothead Compound

Solid, fusible compounds find an extensive use in various insulating operations. Of first importance is the treatment of coils to produce a solidified mass from which moisture and air are excluded. By the use of asphaltic compounds, coils treated by the vacuum process are rendered permanently moisture-proof; while by the use of specially designed compounds, coils may be protected from the penetration both of moisture and mineral oils. Compound treated coils are of rigid type and do not possess any considerable degree of flexibility when finished.

The compound used in this work, however, should preferably be sufficiently tough to withstand rough handling. Other desirable properties of these compounds are uniform flowpoint maintained under continued heat, a high degree of fluidity and high penetration at the treating temperature.

A second class of solid compounds is required for filling cavities to exclude moisture, dust and dirt. There are two general divisions of this group, one including those solid compounds which are melted, poured in place and solidified by cooling. Large quantities of these compounds are required for filling the spaces between porcelain tubes, bases and caps in lightning arresters, to produce a rigid apparatus and to exclude moisture. The other division includes those plastic or putty like compounds which are used in the manufacture of armature and field coils, to fill in spaces between the wires, excluding air and producing a rigid, moisture-proof construction.

In heating compounds, care should be taken to avoid overheating.

Where the mass of porcelain or metal to be filled with compound is relatively large, porcelain or metal should be handled at a temperature as near that of the flowpoint of compound as is convenient, to avoid chilling of compound at surface of contact, a result which tends to develop cracks in the compound and causes it to adhere poorly. In no case should compound be poured on a surface which is colder than 21 degrees C. (70 degrees F.)



Joint Compound

Cat. No.	Description	Flow Point in Deg. Cent.	Approx. Wt., Lbs. per Gallon	PRICE, PER POUND				
				50 Gal. Bbl.	10 Gal. Tub.	5 Gal.	2 Gal.	1 Gal.
8	Coil Filler Compound	250	16.00	\$.37	\$.39	\$.41	...	\$.44
12-G	Arc-chute Cement	...	15.00	.14	.16	.18	...	.21
224	Pothead Compound	110	7.00	.17	.19	.21	...	.24
225	Treating "	100	8.00	.18	.20	.22	...	.25
226	Filling "	95	8.00	.20	.22	.24	...	.27
227	Joint "	65	8.00	.15	...	.19	\$.21	.22
229	Filling "	120	8.00	.27	...	.31	.33	.34
231	Sealing "	115	13.75	.38	.40	.42	...	.45
234	"	100	8.00	.14	.16	.18	...	.21
236	"	135	16.75	.09	.11	.13	...	.16
424	Filling "	150	8.00	.19	.21	.23	...	.26
831	"	...	11.75	...	...	.26	.28	.29
837	"	100	14.00	.10	.12	.14	...	.17



No. 318 Simplex Pole Pulling and Pole Straightening Jacks

Tripping Type



Single action, operating on the downward or effective stroke of the lever. It pivots on its base.

This pole pulling and straightening jack will work successfully on this kind of work.

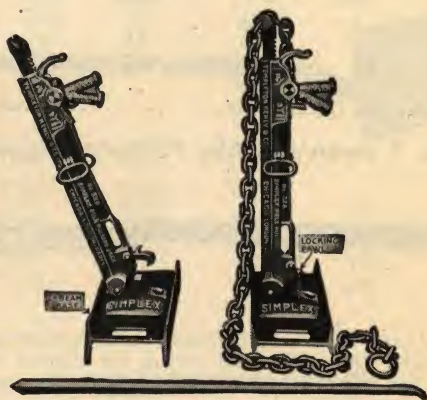
Recommended to those who prefer a tripping style of jack.

STANDARD EQUIPMENT.—8-foot scarf welded steel chain, fitted with pear shaped link. 5-foot steel pinch bar. 1-10x24 in. I-beam base with hand hole punched.

SPECIFICATIONS.—Capacity, 15 tons. Height, 37¼ in. Lift, 24 in. Weight of jack, 89 pounds.

Price, No. 318 Jack.....each \$62.50

No. 329 Simplex Pole Pulling and Pole Straightening Jacks



SINGLE ACTION.—Automatic in raising or lowering, operating on the downward or effective stroke of the lever.

Designed especially for pulling and straightening telephone, telegraph, electric light and trolley poles regardless of size—any depth in the ground—without digging around it. One or two men can pull or straighten poles, pull butts, or move loaded poles without interrupting service. It pivots on its base.

Endorsed, adopted and standardized by the Bell Telephone Companies, Western Union, Postal Telegraph, and many other telephone, telegraph, electric railway and power companies in this country and abroad.

STANDARD EQUIPMENT.—8-foot scarf welded steel chain, fitted with pear shaped link. 5-foot steel pinch bar. 1-10x24 in. I-beam base with hand hole punched.

SPECIFICATIONS.—Capacity, 15 tons. Height, 37¼ in. Lift, 24 in. Weight of jack, 89 pounds.

Price, No. 329 Jack.....each \$70.00

Cable Reel Jacks



With Ratchet Attachments

Each set contains two jacks, a 6-foot reel bar and a jack bar.

The jacks are locomotive pattern with oak bases.

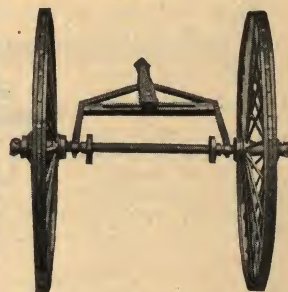
The reel bars are made of high carbon steel. The outfit will swing a reel of any ordinary size and of any weight.

Price, Complete.....	per set	\$42.00
" Jacks without Bar.....	"	36.00
" Ratchet Jacks Complete.....	"	53.00

Steel Cable Reel Wheels

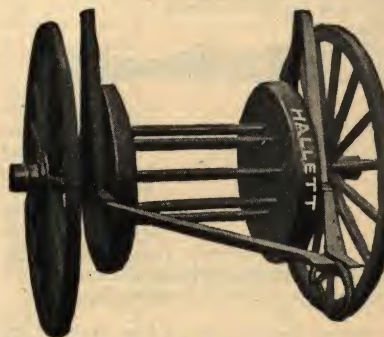
Complete outfit consists of two wheels, a reel bar with guides and collars, and a tongue.

Reel bar is made of cold rolled steel shafting 2½ inches in diameter and 6 feet long. Equipped with guides to hold the reel in place and collars on the ends to retain the wheels.



Diam. Wheel Feet	Price Each	Diam. Wheel Feet	Price Each	Diam. Wheel Feet	Price Each
4	\$95.00	6	\$124.00	7	\$147.00
5	110.00	6½	136.00	8	170.00

Steel Linemen's Carts



Steel line cart for coiling up wire rope by turning the tongue over the cart, it brings the standards against the ground, which will raise the wheels from the ground, thus making the cart immovable while coiling or uncoiling the wire rope.

Price, with Oak Reel.....	each	\$87.50
" " Steel ".....	"	87.50

Capstans

Style A is a ship capstan, equipped with five hand spikes. Arranged for either speed or power. Reversal in the direction of rotation of the capstan bars is the only change necessary. Also made with horsepower attachment.



Style A

Style B is a special horse lever capstan. It is a light, high speed tool.

Price, Style A, with 5 Handspikes.....	each	\$230.00
" " A " Horsepower Attachment..	"	250.00
" " B " 2-foot Drum.....	"	230.00
" " B " 2 " 6-inch Drum.....	"	240.00



Folding Take-up Reels



The reel part collapses and automatically throws off the coil at the same time and in an instant is ready for another coil. The frame, made of heavy hardwood, is strong and heavily reinforced throughout and folds up like a hinge.

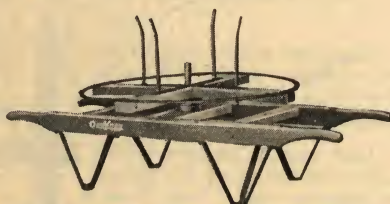
It can be taken down in a moment by merely pulling the pin out of the shaft, throwing off the coil and folding up the frame.

Cat. No.	For Coil Inches	Wt., Lbs. Each	Price Each
896	18	40	\$31.50
897	21	41	32.00
898	24	42	32.50

Barrow Reels

Made of fine maple with heavy steel legs and the reel is strongly reinforced with strap steel.

The heavy W. U. pattern reel is heavily re-enforced and braced with strong angle iron braces and is used for heavier work.



Cat. No.	Description	Wt., Lbs. Each	Price Each
899	Light, for Telephone.....	70	\$30.00
900	Heavy Western Union Pattern.....	80	37.50
901	Guard Pins, per Set of Four.....	5½	2.25

Tree Trimmers



Eighteen inches long; will cut a limb 1½ inches thick. Handle is Washington Fir; furnished any length in one or two pieces joined with brass ferrules. Saw is detachable.

Price, No. 912, without Saw or Handle, Wt., 4 Lbs. each \$7.00
 " " 917, with Saw, without Handle, Wt. 5 Lbs. " 5.00

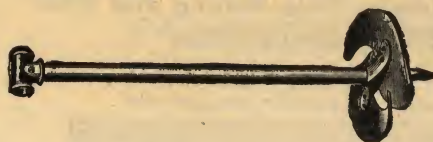
Tree Trimmer Handles

This handle is made of Washington fir, the same grade as used for pike poles, in lengths of 12 to 18 feet.

The handle can be furnished in one piece or in two pieces joined by a seamless brass ferrule in the center.

One-piece Handles			
Cat. No.	Length Feet	Diameter Inches	Price per Doz.
722	12	1¾	\$15.25
723	14	1¾	17.65
724	16	1¾	21.25
725	18	1¾	24.85
Two-piece Handles with Ferrule			
726	12	1¾	\$30.25
727	14	1¾	32.80
728	16	1¾	35.65
729	18	1¾	40.25

Iwan's Vaughn Pattern Post Hole Augers



The point and handle casting are of malleable iron. The standard is 1½ inch pipe, 3½ feet long.

Price, Sizes 4, 5, 6, 7, 8 and 9 inch.....per dozen \$18.00

Iwan's Split Handle Post Hole Diggers



The blades are made of high carbon steel and are thoroughly tempered.

Best grade hardwood handles used, well matched and seasoned.

The size of the blade is 9 inches.

The handles are 1½ inches wide at base.

No. 891 is furnished with extra long handles for telegraph pole hole digging.

Cat. No.	Length of Handle Feet	Wt. Lbs. per Doz.	Price per Doz.
890	4	110	\$24.00
891	7	130	30.00

Extra Handlesper dozen pairs \$5.00

Iwan Post Hole Augers

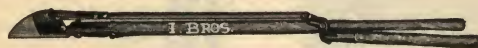
This auger has two high carbon steel blades so formed as to cut rapidly and hold a good quantity of earth. Standard ¾ inch for the 10 inch and smaller sizes, and 1 inch for the 12-inch and larger sizes. These augers are excellent for pole and anchor holes.

For deeper boring than the ordinary handle allows, an extension handle can be furnished. This is 4 feet closed and 8 feet extended. Can be extended every 6 inches, permitting the operator always to work at a convenient operating height.

Size No. Inches	Length Feet	Price Each	Size No. Inches	Length Feet	Price Each
3, 4, 5, 6	4	\$2.33	12	5½	\$8.00
7, 8	4	2.50	14	5½	10.00
9	4	2.66	16	5½	12.00
10	4	3.00	..	...	...

Price, Extension Handle only.....each \$3.25

No. 4 Iwan's Gibbs Pattern Diggers



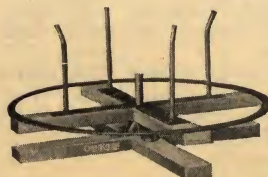
Has only one blade and therefore can be forced deeper into the ground. Especially well suited for digging in stony ground. The blade is wide and can be used as a shovel for replacing dirt in hole.

The one-blade or Gibbs Digger is a durable tool made with high grade handles, steel and malleable iron construction.

Cat. No.	Description	Wt. Lbs.	Price Each
4	Digs Hole 4 Feet Deep.....	14	\$6.50

Pay-out Reels

Made of hard maple, well constructed and re-enforced throughout.



Cat. No.	Wt., Lbs. Each	Price Each
902	40	\$20.00

**Ames D Handle Round Point Shovels**

Plain Back—Polished

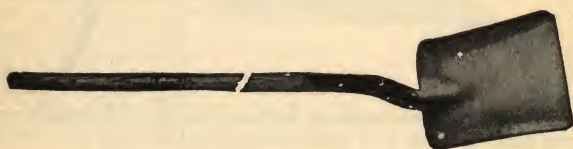


Size No.	*Width Blade Inches	*Length Blade Inches	*Wt. Lbs. per Dozen	List No.	Price per Dozen
2	9 $\frac{1}{8}$	12 $\frac{7}{8}$	58	175	\$24.00
3	9 $\frac{5}{8}$	12 $\frac{7}{8}$	59	176	25.00
4	9 $\frac{3}{4}$	13 $\frac{1}{2}$	71	177	26.00
5	10 $\frac{3}{8}$	14 $\frac{1}{4}$	73	178	27.00

*Approximate.

Ames Long Handle Square Point Shovels

Plain Back—Polished



Size No.	*Width Blade Inches	*Length Handle Inches	*Wt. Lbs. per Dozen	List No.	Price per Dozen
2	9 $\frac{3}{4}$	11 $\frac{5}{8}$	68	179	\$24.00
3	10	12 $\frac{1}{8}$	69	180	25.00
4	10 $\frac{3}{4}$	13	77	181	26.00

*Approximate.

Ames Long Handle Round Point Shovels

Plain Back—Polished

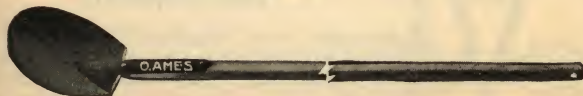


Size No.	*Width Blade Inches	*Length Handle Inches	*Wt. Lbs. per Dozen	List No.	Price per Dozen
2	9 $\frac{3}{4}$	11 $\frac{3}{4}$	62	182	\$24.00
3	10 $\frac{1}{8}$	12 $\frac{3}{8}$	66	183	25.00
4	10 $\frac{1}{2}$	12 $\frac{1}{8}$	69	184	26.00

*Approximate.

Ames Telegraph Spoons

Black



Used for digging out post-holes.

List No.	Size Inches	Length Handle Feet	Wt., Lbs. per Dozen	Price per Dozen
1041	10x8 $\frac{1}{4}$	4 $\frac{1}{2}$	..	.....
1042	10x8 $\frac{1}{4}$	6	90	.....
1043	10x8 $\frac{1}{4}$	7	98	.....
1044	10x8 $\frac{1}{4}$	8	104	.....
1045	10x8 $\frac{1}{4}$	9	113	.....
1046	10x8 $\frac{1}{4}$	10	121	.....

Plain Pike Poles

Handle is made of yellow Washington Fir. Pike is made of crucible steel and set in oil, projecting 3 inches.

Standard Small Size

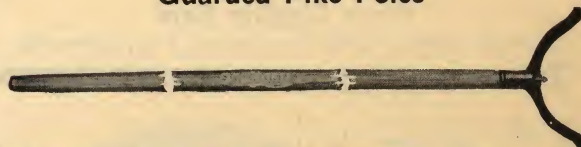
Handle is 2 inches even diameter.

Cat. No.	Length Feet	Wt., Lbs. per Doz.	Price Each	Cat. No.	Length Feet	Wt., Lbs. per Doz.	Price Each
805	10	75	\$4.50	807	14	115	\$5.50
806	12	95	5.00	808	16	135	6.00

Western Electric Pattern

Handle is 2 $\frac{1}{2}$ inches in diameter in the middle and is tapered to two inches at each end. Pike is of $\frac{5}{8}$ -inch square crucible steel, projecting four inches.

818	12	150	\$5.50	821	18	215	\$8.00
819	14	165	6.25	822	20	240	9.00
820	16	185	7.25	...	..	...	....

Guarded Pike Poles

Handles made of select Washington Fir. The forks are malleable iron with the fork and socket cast in one piece.

Cat. No.	Length Feet	Diam. Handle In	Wt., Lbs. per Doz.	Price Each
832	10	2	100	\$5.93
833	12	2	120	6.36
834	14	2	140	6.91
795	16	2	160	8.75
796	12	2 $\frac{1}{2}$	165	9.04
797	14	2 $\frac{1}{2}$	180	9.60
835	16	2 $\frac{1}{2}$	195	10.16
836	18	2 $\frac{1}{2}$	210	10.73
837	20	2 $\frac{1}{2}$	235	11.29

Nos. 295-300 Carrying or Lug Hooks

For handling heavy timbers from 3 to 16 inches in diameter. Made with crucible steel chisel point hooks, clasps and swivels. Select rock maple handle.

**Regular Pattern**

Cat. No.	Length Feet	Diam. of Handle, Inches	Wt., Lbs. per Doz.	Price Each
295	4	2 $\frac{1}{2}$	85	\$6.00
296	4 $\frac{1}{2}$	2 $\frac{1}{2}$	90	6.50
297	5	2 $\frac{1}{2}$	95	7.00

Extra Heavy, with Steel Swivels

For timbers up to 23 inches in diameter.

298	5	3	145	\$8.75
299	6	3	155	9.50
300	7	3	165	10.25

Nos. 800-804 Carrying or Lug Hooks**Western Union Pattern**


Designed for handling heavy poles or timbers. Hooks are made of crucible steel.

Handle is of select rock maple without a defect. It is three inches square in the middle, and is fitted with a swivel bolt to permit turning.

Cat. No.	Length Feet	Size of Handle, Inches	Wt., Lbs. per Doz.	Price Each
800	4	3	135	\$8.50
801	5	3	150	9.00
802	6	3	160	9.50
803	7	3	175	10.25
804	8	3	190	12.25

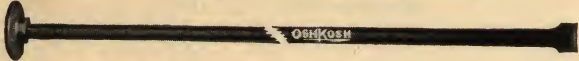


Crow and Digging Bars



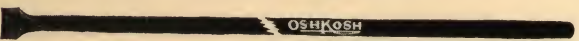
Cat. No.	Size Octagon Inches	Length Feet	Wt., Lbs. Each	Price Each
1061	1	7	20	\$10.50
1064	1 1/8	7	26	13.50
1065	1 1/8	8	30	15.00

Tamping and Digging Bars




Cat. No.	Size Octagon Inches	Length Feet	Wt., Lbs. Each	Price Each
1071	1	7	20	\$12.50
1074	1 1/8	7	26	15.00
1075	1 1/8	8	30	16.50

Plain Digging Bars



Cat. No.	Size Octagon Inches	Length Feet	Wt., Lbs. Each	Price Each
1081	1	7	10	\$6.00
1085	1 1/8	8	28	8.00


No. 852 Digging Spuds with Tamper



Cat. No.	Description	Wt., Lbs. Each	Price Each
852	9 Feet Long, Steel Tube Handle	20	\$10.00

Blade and tamper are shrunk and riveted onto handle; blade and socket being one piece.

No. 1044 Electric Tamping Bars



Of lighter construction than the regular heavy solid steel tamping bars. Made of cast steel pipe with malleable tamper of different size on each end. Length, 8 feet.

Price, No. 1044.....each \$6.81


Tamping Bars With Extra Heavy Iron Shoe



Made with select maple handles with 1 1/4-inch by 1/2-inch shoe. Weights given are per dozen.

Cat. No.	Description	Wt., Lbs. Each	Price Each
1054	With 7-foot Handle	160	\$5.82
1055	" 8 " " " " " " " " " " " "	180	6.19
1056	" 9 " " " " " " " " " " " "	200	7.07

No. 853 Loys or Slicks




The handle is of 2-inch selected maple and the blade is of tool steel 4x1/2 inches, burned onto the handle and held by two large rivets.

Length, eight feet. Weight, 18 pounds each.

Price, No. 853.....each \$9.50


Tamping Bars



With heavy iron shoe and maple handle.

Cat. No.	Description	Wt., Lbs. Each	Price Each
854	With 7-foot Wood Handle	13	\$6.00
855	" 8 " " " " " " " " " " " "	15	6.50

Malleable Solid Socket Peavies



Light, strong, durable and evenly balanced. Socket is made from the best grade of malleable iron. The hook and pick are made of crucible steel. The pick and socket are set in oil paint, 60,000 pounds screw pressure, cold—not burnt or driven in. In adaptability to range of work or excellence of finish these peavies are unequalled.

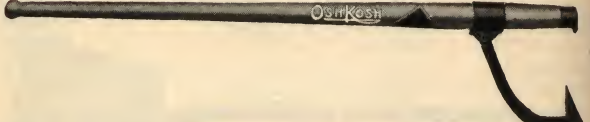
Regular Maple Handles

Cat. No.	Size In.	Size Ft.	Wt., Lbs. per Doz.	Price Each
121	2 1/4 x 4	85	\$5.80	
122	2 1/4 x 4 1/2	89	5.96	
123	2 1/4 x 5	94	....
124	2 1/2 x 4	104	6.02	
125	2 1/2 x 4 1/2	110	6.18	

Select Hickory Handles

Cat. No.	Size In.	Size Ft.	Wt., Lbs. per Doz.	Price Each
134	2 1/4 x 4	91	\$7.29	
135	2 1/4 x 4 1/2	96	7.60	
136	2 1/4 x 5	102	....
137	2 1/2 x 4	113	7.51	
138	2 1/2 x 4 1/2	117	7.85	

Cant Hooks



Made with select maple or hickory handle. Malleable iron clasp and toe ring, and regulation duck bill hook of crucible steel.


With Maple Handle

Cat. No.	Length Feet	Diam. of Handle, Inches	Wt., Lbs. per Doz.	Price Each
188	4	2 1/2	95	\$5.50
189	4 1/2	2 1/2	100	6.00

With Hickory Handle

Cat. No.	Length Feet	Diam. of Handle, Inches	Wt., Lbs. per Doz.	Price Each
199	4	2 1/2	95	\$6.50
200	4 1/2	2 1/2	100	7.00


Mule Pattern Wood Pole Supports



Washington Fir, tapering slightly at both ends. Forged fork and pick.

Cat. No.	Length Feet	Size of Support Inches	Wt., Lbs. Each	Price Each
845	6	3 1/2	23	\$13.00
846	7	4 1/2	26	15.00
847	8	4 1/2	29	17.00

Standard Deadman Wood Pole Supports



Made of oak with heavy wrought steel fork and pike, for extra heavy work.

Cat. No.	Length Feet	Size of Support, In.	Wt., Lbs. Each	Price Each
848	8	4x2	29	\$24.00

Jenney Pattern Wood Pole Supports

The 6-foot is made of 2-inch x 3-inch and the 7-foot and 8-foot of 2 1/2-inch x 3 1/2-inch rock maple, carefully selected. The entire support is heavily bolted and braced.

The fork is of hand-forged crucible steel.

A light but strong support for wooden poles.



Cat. No.	Length Feet	Size of Support Inches	Wt., Lbs. Each	Price Each
842	6	2 x 3	39	\$16.50
843	7	2 1/2 x 3 1/2	57	19.00
844	8	2 1/2 x 3 1/2	62	20.00



Universal Single Eye Cable Grips



Single eye grip is designed for attaching the pulling line to the end of a cable. Has a brass marker fastened to neck.

Cat. No.	Size Inches	For Cable Diam., In.	Cat. No.	Size Inches	For Cable Diam., In.
191701	1/2 x 24	1/2 to 5/8	191709	1/2 x 36	1/2 to 5/8
191702	3/4 x 24	3/4 " 1 1/8	191710	3/4 x 36	3/4 " 1 1/8
191703	1 x 24	1 " 1 3/8	191711	1 x 36	1 " 1 3/8
191704	1 1/2 x 24	1 1/2 " 1 7/8	191712	1 1/2 x 36	1 1/2 " 1 7/8
191705	2 x 24	2 " 2 3/8	191713	2 x 36	2 " 2 3/8
191706	2 1/2 x 24	2 1/2 " 2 7/8	191714	2 1/2 x 36	2 1/2 " 2 7/8
191707	3 x 24	3 " 3 3/8	191715	3 x 36	3 " 3 3/8
191708	3 1/2 x 24	3 1/2 " 3 7/8	191716	3 1/2 x 36	3 1/2 " 3 7/8

Prices upon application.

Universal Double Eye Plain Cable Grips

The double eye plain grip is designed for pulling slack or recovering old cable. Any length or diameter of cable can be handled with ease, shifted little or much, without damage to the sheath.



Cat. No.	Size Inches	For Cable Diam., In.	Cat. No.	Size Inches	For Cable Diam., In.
191733	3/4 x 18	3/4 to 1 1/8	191740	3/4 x 24	3/4 to 1 7/8
191734	1 x 18	1 " 1 3/8	191741	1 x 24	1 " 1 3/8
191735	1 1/2 x 18	1 1/2 " 1 7/8	191742	1 1/2 x 24	1 1/2 " 1 7/8
191736	2 x 18	2 " 2 3/8	191743	2 x 24	2 " 2 3/8
191737	2 1/2 x 18	2 1/2 " 2 7/8	191744	2 1/2 x 24	2 1/2 " 2 7/8
191738	3 x 18	3 " 3 3/8	191745	3 x 24	3 " 3 3/8
191739	3 1/2 x 18	3 1/2 " 3 7/8	191746	3 1/2 x 24	3 1/2 " 3 7/8

Prices upon application.

Universal Double Eye Split Cable Grips



Designed for use on a working cable. It can be attached to any point on a cable without cutting it. It can be laced on and the cable shifted without interruption to the service.

Cat. No.	Size Inches	For Cable Diam., In.	Cat. No.	Size Inches	For Cable Diam., In.
191754	3/4 x 18	3/4 to 1 1/8	191761	3/4 x 24	3/4 to 1 7/8
191755	1 x 18	1 " 1 3/8	191762	1 x 24	1 " 1 3/8
191756	1 1/2 x 18	1 1/2 " 1 7/8	191763	1 1/2 x 24	1 1/2 " 1 7/8
191757	2 x 18	2 " 2 3/8	191764	2 x 24	2 " 2 3/8
191758	2 1/2 x 18	2 1/2 " 2 7/8	191765	2 1/2 x 24	2 1/2 " 2 7/8
191759	3 x 18	3 " 3 3/8	191766	3 x 24	3 " 3 3/8
191760	3 1/2 x 18	3 1/2 " 3 7/8	191767	3 1/2 x 24	3 1/2 " 3 7/8

Prices upon application.

Universal Leather Collar Protectors

For Use With Single Eye Cable Grips

By the use of this collar the life of the single eye grip can be greatly prolonged, for many conduits contain more or less sand and foreign matter, which tends to wear the cable grip, especially at a point near the neck.



The leather collar protector is designed to overcome this difficulty and a saving can be effected by its use.

Cat. No.	Description	Cat. No.	Description
191775	For 1-inch Grips	191778	For 2 1/2-inch Grips
191776	" 1 1/2 " "	191779	" 3 " "
191777	" 2 " "	191780	" 3 1/2 " "

Prices upon application.

Marshall's Linemen's Shields



Linemen's shield submerged test as follows: Shield placed in water, inside of shield filled with water to within 1 1/2 inches of edge of shield. 1 minute at 20000 volts, 1/2 minute at 25000 volts and 10 seconds at 30000 volts.

Don't try to repair or patch these shields. If for any reason whatsoever the shields become defective or unserviceable inside of five years from date of shipment, return shield to us with full details, and we will make an allowance towards the purchase of a new one.

Price.....each \$40.00

Marshall's Linemen's Cross Arm Shields

Tested to 20000 Volts



Cross arm protectors dry test. Metal on inside and metal on outside. 1 minute at 10000 volts, 1/2 minute at 15000 volts, and 10 seconds at 20000 volts.

In ordering cross arm shields, be careful in stating length between pins from center to center and width of cross arm on tip as they have to be made to fit. Made in lengths up to 17

inches from center to center of pins.

Price.....each \$12.00
 " Hard Rubber Rings for Linemen's Shields " .50
 " Straps for Linemen's Shields..... " .75

Marshall's Linemen's Shoes

Test: Place the shoe in 2 inches of water, fill the shoe with water to depth of 1 1/4 inches at center of shoe. 2 minutes at 5000 volts, 1 minute at 10000 volts and 10 seconds at 20000 volts.

A perfectly insulated rubber shoe which gives linemen on the poles, on the ground and in the manholes absolute protection against pressures up to 20000 volts. It is vulcanized into a solid piece and will not peel nor come apart; nor can it be affected by oil, gasoline or grease. No metal used in any part of its construction.



Each pair of shoes includes 1 pair of specially made stockings. Shoes carried in sizes 7, 8, 9, 10 and 11. Unless special size is specified No. 9 will be sent.

Price.....per pair \$12.50
 " Linemen's Stockings..... " 1.25



Perfection Electricians' Gloves



These gloves are seamless and heavily re-enforced at the points where hard usage occurs. Being seamless, there is no opportunity for leakage through seams.

They may be reversed, thus insuring a dry glove at all times. All gloves are guaranteed to withstand the voltage for

which they are marked. The re-enforced gloves permit free use of hands, yet last longer than the plain style.

Furnished in sizes 9, 9½, 10, 10½, 11 and 11½.

Cat. No.	Volts	Length In.	Price per Doz. Pairs	Cat. No.	Volts	Length In.	Price per Doz. Pairs
311	3000	11	\$30.00	*1014PG	10000	14	\$45.00
512	5000	12	33.00	1512	15000	12	45.00
514	5000	14	36.00	1514	15000	14	50.00
1012	10000	12	40.50	1518	15000	18	81.00
1014	10000	14	45.00				

Perfection Electricians' Mittens

Cat. No.	Volts	Length In.	Price per Doz. Pairs	Cat. No.	Volts	Length In.	Price per Doz. Pairs
1012M	10000	12	\$40.50	1016M	10000	16	\$60.00
1014M	10000	14	45.00				

No. 2074 is a short horsehide glove of selected thin stock, tough and pliable, with adjusting strap for use with No. 1014PG gloves.

Price, No. 2074 per doz. pairs \$30.00

" " 2074G, Same as No. 2074, but Has Cuff 4

Inches Long and No Adjusting Strap per doz. pairs 36.00

*To be used only with leather protectors.

No. 59 Hurd's Linemen's Hatchets



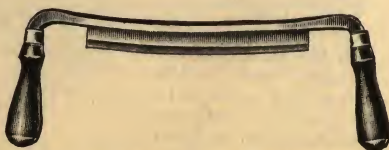
Gun metal finish. Cutting edge polished. Short strong blade. Heavy hardened head.

Packed ½ dozen in a carton, 4 dozen in a case.

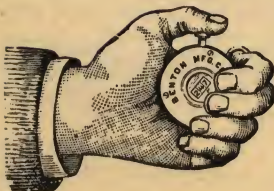
Size No.	Width Cat. Inches	Length Handle Inches	Price per Dozen
59	4¼	15	\$44.00

Linemen's Draw Knives

Blade In.	Price Each
12	\$5.10
14	5.65

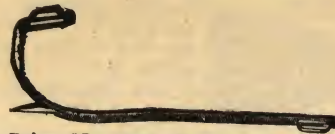


Hand Tally Registers



No.	Description	Price Each
0	Records 1 to 1000	\$4.00
1	" " 1 " 10000	5.00
0	With Bracket or Safety Pin	4.50
1	With Bracket or Safety Pin	5.50

Nos. 1901 and 1900 Eastern Climbers



Made in sizes 15, 15½, 16, 16½, 17, 17½ and 18 inches, measured from instep to end of snank. Furnished without straps.

Price, No. 1901, Punched Strap Loops per pair \$8.20
" " 1900, Riveted " 8.90

Stephens Climbers



Made in lengths from 14 to 19 inches, varying by one-half inch.

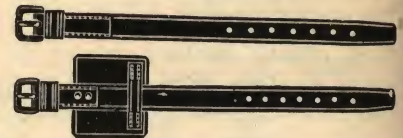
Weights are light and medium. Medium

weight climber is most popular.

Shipping weight, medium weight, approximately four pounds.
Price per pair \$7.50

No. 5301 Straps for Eastern Climbers

Set consists of two upper straps with 4x4 plain leather pads and two lower straps.



Made of select oak tanned harness leather, extra heavy drop-forged roller buckles.

Heel straps (over all), 22 inches long by 1¼ inches wide.

Calf strap (over all), 22 inches long by 1¼ inches wide.

Price, No. 5301-1, with Plain Pads	..... per set	\$6.50
" " 5301-2 " Sheep Lined Pads	"	7.00
" " 5301-3 " Felt Lined Pads	"	7.00
" " 5301-4, Straps without Pads	"	2.70
" " 5301-5 " with Plain Pads	"	3.80



Nos. 8200-8202 Pads for Eastern Climbers

Made of select plain leather, and lined with sheepskin or felt, with loops through which to slip climber straps.

Size, 4x4 inches.

Price, No. 8200 Sheep-lined	..... per pair	\$1.60
" " 8201 Felt-lined	"	1.60
" " 8202 Plain Leather	"	1.10

Inspectors' Pocket Tool Kits



Solid black leather folding case strongly stitched, reinforced back. Fitted with one each of the following tools: No. 201-6 side-cutting plier; No. 301-5 long nose plier, No. 1550-2 "Xela" electrician's knife; 1 pair electrician's tweezers; 1 special file; 1 special screwdriver.

A handy assortment to fit the pocket. Weight, 1½ pounds.

Price, No. 1305-2each \$15.00



Nos. 5202 and 5204 Tool Belts

Made of genuine oak tanned harness leather. The cushion $2\frac{1}{4}$ inches wide carries the "D" rings. The outer or loop layer is $1\frac{1}{2}$ inches wide formed into tool loops by riveting to the cushion.

The "D" rings are solid steel drop forgings of improved design, tested to 1200 lbs. All rivets are solid copper set with burrs and sewing is with hot waxed harness thread, lock stitched. "D" rings and buckle are galvanized finish.

Made in lengths 34, 36, 38, 40, 42, 44, 46, 48 and 50 inches.



Cat. No.	Width, In.	Wt., Lbs. Each	Price Each
5202	$2\frac{1}{4}$	$2\frac{1}{2}$	\$8.90
5204	$3\frac{1}{2}$	$2\frac{1}{2}$	9.50

No. 5205 Tool Belts



Made of genuine oak tanned harness leather. The inner or cushion layer, $2\frac{1}{4}$ inches wide, carries the "D" rings and is lock stitched and riveted to the outer layer and is furnished with a strong drop forged buckle tested to 1200 pounds.

The "D" rings are solid steel drop forgings tested to 1200 lbs. and are of improved design. Surfaces which take the wear of the "D" rings are protected with copper safety liners riveted to the belt. "D" rings and buckle are galvanized finish. The loop strap is $1\frac{1}{4}$ inches wide, formed into 6 loops.

Made in lengths 34, 36, 38, 40, 42, 44, 46, 48 and 50 inches.

Weight each, $2\frac{3}{4}$ pounds.

Price, No. 5205, Width, $2\frac{1}{4}$ Inches.....each \$10.50

No. 5250 Safety Straps



This style of safety strap is known as the standard type. Cut out of genuine oak tanned harness leather, securely sewed, riveted and doubly re-enforced. Only the best grade hardware is used. The snaps and buckle are solid drop forgings tested to 1200 pounds. Galvanized finish. Strap may be shortened or lengthened by adjusting buckle. The looped ends of the strap are re-enforced with copper clips, riveted.

Size, $1\frac{3}{4}$ inches x 6 feet.

Price, No. 5250 with Solid Drop Forged Snaps...each \$8.90

No. 5253 Safety Straps



This strap is a heavy duty type. Genuine oak tanned harness leather, first quality. Solid copper rivets and burrs. The snaps and buckle are extra heavy steel drop forgings tested to 1200 pounds. The strap may be lengthened or shortened by adjusting buckle. Reinforced at both ends with safety clips of sheet copper riveted. Snaps and buckle are galvanized.

Extra heavy drop-forged roller snaps and buckle. Weight, per dozen, 39 pounds.

Price No. 5253, 2 In. x 6 Ft.....each \$11.40

No. 5206-1A Belts and Safety Straps Combined



The tool belt in this outfit is $2\frac{1}{4}$ inches wide. Strap, $1\frac{3}{4}$ inches. All snaps, "D" rings and buckles are solid steel drop forgings tested to 1200 pounds and are galvanized finish. The strap may be adjusted to any length by means of buckle or it may be detached entirely from the belt.

Genuine oak tanned harness leather throughout. Hot waxed harness thread lock stitched.

Weight per dozen, 60 pounds.

Price, No. 5206-1A, with Strap, $1\frac{3}{4}$ In. x 6 Ft...each \$17.80

No. 5108 Klein's Inspectors' Harness Leather Tool Bags

This bag is made of harness leather and will stand rough usage. It has a shoulder strap combined with a pad and hand strap; also a saw and bit holder. The bottom is three ply and is studded with steel studs. Retaining straps pass clear around the bag.



All seams are sewed with hot waxed linen thread, lock stitched. The leather used does not absorb moisture.

Cat. No.	Size In.	Wt. Lbs.	Price Each
5108-14	14x8	3	\$15.00
5108-16	16x8	$4\frac{1}{2}$	16.00
5108-18	18x8	$4\frac{1}{2}$	17.00
5108-20	20x8	$5\frac{1}{2}$	17.50
5108-22	22x8	6	18.50
5108-24	24x8	$7\frac{1}{2}$	19.50

No. 5102 Klein's Linemen's Canvas Tool Bags

Made of one piece white duck reinforced all around bottom, $3\frac{1}{4}$ inches up, with heavy bag leather. Bottom is made of heavy leather outside, duck inside. Lock stitched all around, forming an independent knot in each stitch, making it impossible to rip. Studded with strong steel studs. Has harness leather handles and two retaining straps with buckles.



Cat. No.	Size In.	Wt. Lbs.	Price Each
5102-14	14	3	\$8.00
5102-16	16	$3\frac{1}{2}$	10.00
5102-18	18	$3\frac{3}{4}$	10.50
5102-20	20	$3\frac{7}{8}$	11.50
5102-22	22	4	12.50
5102-24	24	$4\frac{1}{2}$	13.50

No. 5106 Leather Pouches

This pouch is made of heavy harness leather with loops to slip onto belt.

Lock stitch sewing with hot waxed linen thread.

This pouch is convenient for holding screws, staples, nails, etc.

Price, No. 5106.....each \$2.00



No. 5111 Hip Pocket Tool Cases

This case is suitable for carrying pliers or other tools in hip pocket.

Prevents cutting of clothes, or possible injury to the person.

Made of harness leather.

Price, No. 5111, Size, 5x7 Inches...each \$2.00





No. 1613 Chicago Grips for Bare Wire



Main body piece and lever are forged steel. Draw parts are wrought steel. Gripping jaws are machined smooth. Rivets are machine turned and workmanship throughout is first class.

The harder the pull, the tighter the hold. It pulls straight without leaving kinks in the wire. It is handy to put on and holds itself in place by means of a spring acting on the compressing lever.

Cat. No.	Description	Max. Open In.	Wt. Lbs. Each	Price Each
1613-30	For No. 6 Wire and Smaller..	$\frac{7}{32}$	$1\frac{1}{2}$	\$8.00
1613-40	" " 0 " " " "	$\frac{9}{16}$	$2\frac{5}{8}$	11.00
*1613-50	" " 0000 " " " "	$\frac{1}{2}$	$7\frac{1}{2}$	20.00
1613-60	" 16000 Lb. Strand and Smaller	$\frac{11}{16}$	12	30.00

*Will also accommodate 6000 and 10,000-pound strands.

Nos. 1611 and 1610 Chicago Grips for Insulated Wire

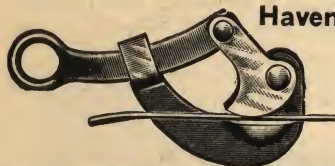
Main body piece and lever are forged steel. Drawn parts are wrought steel. Rivets are machine turned.



The upper jaw has a series of transverse shallow grooves into which, on applying strain, the insulation is tightly compressed but not injured.

Cat. No.	Description	Max. Openings, in.	Wt. Lbs.	Price Each
1611-20	No. 4 Wire and Smaller	$\frac{1}{2}$	$2\frac{5}{16}$	\$10.00
1611-30	" 00 " " " "	$\frac{9}{16}$	$3\frac{3}{4}$	13.50
1611-40	" 0000 " " " "	$\frac{3}{4}$	$7\frac{1}{4}$	23.00

NOTE.—The manufacture of Chicago Grips with pulleys have been discontinued.



Haven's Steel Grips

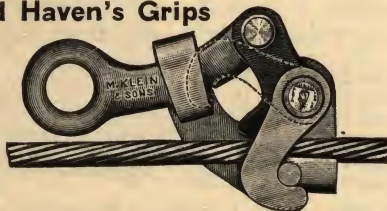
Almost automatic in action. Handle and eccentric allow instantaneous hold. A shake of the rope on the tackle disengages the grip.

Price, No. 1604-10 for No. 8 Wire and Finer... each \$5.00
" " 1604-20 " $\frac{1}{2}$ -inch Wire and Finer... " 7.00

Improved Haven's Grips

For plain or stranded wire No. 6 to $\frac{3}{4}$ -inch diameter. Made with swing latch which engages stud on lower jaw.

Price, No. 1625-20 ea. \$15.00



No. 1802 Troublemens's Self-locking Blocks For Use with Chicago Grips and Haven's Grips



No. 1802-30 furnished with 25 feet $\frac{3}{8}$ -inch Manila rope, $2\frac{1}{2}$ lbs. consists of light steel shell blocks galvanized, fitted with snubbing hook to lock load in any position. To lock the load, pull the luff rope under the hook. To release, simply pull the rope. The blocks are arranged with spring guard snap hooks. When pulling up wire to make a splice, it may be used with two grips attached to the snaps or with a drop-forged hook to anchor to an insulator-pin or other convenient anchorage.

Cat. No.	Description	Wt. Lbs.	Price per Set
1802-30	Galv., with 25 Ft. $\frac{3}{8}$ -inch Rope.....	$2\frac{1}{2}$	\$8.00

No. 102-1 Klein's Splicing Clamps



This clamp is arranged with five round holes for bare wire. For copper wire Nos. 8, 10, 12, 14, 16, B. & S. For iron wire Nos. 10, 12, 14, 16, 18, B. W. G. Length 8 inches.

Price, No. 102-1.....each \$5.20

No. 102-3 Klein's Splicing Clamps



For Nos. 4, 6, 8, 9, 10, 12, 14 iron wire; Nos. 2, 4, 6, 8, 10, 12 copper wire. Length, $10\frac{3}{4}$ inches.

Price, No. 102-3.....each \$6.70

No. 105-15 Klein's Splicing Clamps For Twisting Double Tube Sleeves



For copper sleeves Nos. 8, 10, 12, 14, 17, B. & S.

For iron sleeves Nos. 10, 12, 14, 16, 19, B. W. G.

Price, No. 105-15, Size 8-inch.....each \$5.50

No. 105-17 Klein's Splicing Clamps



Has five sets of chamber for twisting double tube sleeves.

For copper sleeves Nos. 6, 8, 10, 12, 14, 17, B. & S.

For iron sleeves Nos. 8, 10, 12, 14, 16, 19, B. W. G.

Price, No. 105-17, Size $10\frac{3}{4}$ -inch.....each \$6.70

No. 132-12 Klein's Splicing Clamps



This clamp had four round holes for twisting bare wire.

Copper wire Nos. 6, 8, 10, 12, B. & S.

Iron wire Nos. 8, 10, 12, 14, B. W. G.

The reverse side has four double chambers for twisting sleeves.

Copper sleeves Nos. 8, 10, 12, 14, 17, B. & S.

Iron sleeves Nos. 10, 12, 14, 16, 19, B. W. G.

Price, No. 132-12, Size 9-inch.....each \$7.00

No. 132-15 Klein's Splicing Clamps



Hammer forged from high grade crucible tool steel. Spring tempered. Polished heads and black handles.

Designed for general telephone and telegraph work where a large range of wires is used.

This clamp has five round holes for twisting bare wire:

Copper wire, Nos. 4, 6, 8, 10, 12, B. & S.

Iron wire, Nos. 6, 8, 10, 12, 14, B. W. G.

The reverse side has five double chambers for twisting sleeves:

Copper sleeves, Nos. 6, 8, 10, 12, 14, 17, B. & S.

Iron sleeves, Nos. 8, 10, 12, 14, 16, 19, B. W. G.

Strand opening .467x.624 for strand.

Price, No. 132-15, Size $11\frac{1}{4}$ -inch.....each \$9.50



No. 201 Klein's Side Cutting Pliers



Diamond Special,
for use on bare and
insulated wire.

Cat. No.....	201-5	201-6	201-7	201-8	201-9
Size.....inches	5	6	7	8	9
Price.....each	\$5.20	5.60	6.70	7.50	8.90

No. 212 Klein's Side Cutting Pliers With Sleeve Joint Twisters

Diamond Special,
for use on bare and
insulated wire, with
sleeve joint twister.



Cat. No.....	212-6	212-7	212-8
Size.....inches	6	7	8
Price.....each	\$6.70	7.50	8.90

No. 232 Klein's End Cutting Pliers



Stout jaws
and broad
cutting knives.
Price
Each
No. 232-5 1/2 \$6.00
232-7.. 6.70

No. 202 Klein's Oblique Cutting Pliers

Cuts close, the
narrow head per-
mitting its use in
confined places.

Knives are per-
fectly fitted. Lap
joint type.

Price, No. 202-5, Length, 5 Inches.....each	\$4.50
" " 202-6 " 6 "	5.00



No. 303 Klein's Long Needle Nose Pliers



Useful for
work in central
offices on ac-
count of the thin
points.

Price, No. 303-6, Length, 6 Inches.....each	\$4.00
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No. 205 Long Duck-bill Side Cutting Pliers

For general
use.

Cutters are
carefully fit-
ted.



Price, No. 205-6, Length 6 Inches.....each	\$4.80
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No. 304-6 Klein's Long Duck Bill Pliers

Fitted with duck-
bill jaws wider and
heavier than those
of the flat-nose plier.



Price, No. 304-6, Length, 6 Inches.....each	\$4.40
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No. 305 Klein's Long Flat Nose Pliers

Suitable for
switchboard,
telephone and
telegraph work,
etc.



Price, No. 305-6, Length, 6 Inches.....each	\$4.40
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No. 206 Klein's Long Flat Nose Side Cutting Pliers



Useful for
work in confined
places. Made
with cutting
knives.

Price, No. 206-6, Length, 6 Inches.....each	\$4.80
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No. 203 Klein's Long Nose Side Cutting Pliers



Designed for
work in restrict-
ed spaces.
Equipped
with cutting
knives.

Price, No. 203-5, Length, 5 Inches.....each	\$4.40
" " 203-6 " 6 "	4.80

No. 301 Klein's Long Nose Pliers, without Cutters

Adapted for
stripping the
ends of insulated
wire, and for
work in con-
fined spaces.



Price, No. 301-5, Length, 5 Inches.....each	\$3.70
" " 301-6 " 6 "	4.00

No. 302 Klein's Long Curved Nose Pliers

Angle is ar-
ranged to give
full clearance
and prevent
skinning of
knuckles.



Price, No. 302-6, Length, 6 Inches.....each	\$4.80
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No. 406-6 1/2 Klein's Slip Joint Pliers



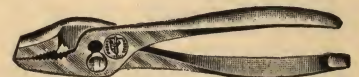
This plier embodies
all the advantages offer-
ed by a tool of this type.
Has a wire cutter and a
screwdriver handle.

Price, No. 406-6 1/2, Length, 6 1/2 Inches.....each	\$2.00
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No. 407-7 Klein's Utility Slip Joint Pliers

A heavy type plier.

May be used as pipe
wrench or wire cutter.



Price, No. 407-7, Length, 7 Inches.....each	\$2.50
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New Easy Bolt Clippers

All parts made in duplicate to standard gauges. Screw provides ample adjustment, keeping cutting edge in contact.

Cat. No.	Length Inches	Cuts Bolts Inches	Price Each	Cat. No.	Length Inches	Cuts Bolts Inches	Price Each
0	18	$\frac{5}{16}$	\$3.75	2	30	$\frac{1}{2}$	\$7.00
1	24 $\frac{1}{2}$	$\frac{3}{8}$	5.00	3	36	$\frac{5}{8}$	9.00

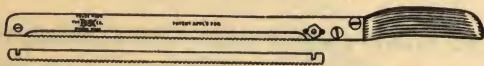


Boston Wire Cutters

Designed for general use. Handles are insulated.

Cat. No.	Length Inches	Opening Inches	Price Each	Cat. No.	Length Inches	Opening Inches	Price Each
0	18 $\frac{1}{2}$	$\frac{1}{2}$	\$5.50	2	30 $\frac{3}{8}$	$\frac{1}{2}$	\$9.00
1	24 $\frac{1}{2}$	$\frac{3}{4}$	6.50	3	36 $\frac{1}{8}$	$\frac{1}{4}$	12.00

B-X Saws



Made especially for cutting B-X Cable. Used for underground work in cutting sheathing and for cleaning between segments in commutators.

Price each \$1.50
" Special Slotted Blades per dozen .85

No. 688 Brown & Sharpe Wire Gauges American Standard



Nos. 0 to 36

Adopted by the brass manufacturers, January, 1858.

Gauge numbers are stamped on one side and decimal equivalents on reverse side.

Price, No. 686 for Gauges 0 to 36 each \$3.00
" 688 " " 5 " 36 " 2.50

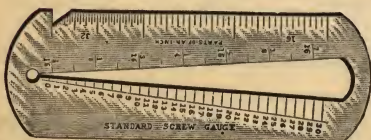


Neco Wire Gauges

Pocket wire gauge for measuring wire from No. 18 to No. 000 B. & S. gauge. On the front is also given the carrying capacity of copper wire in amperes and on the reverse side the approximate decimal equivalent of the various size wires.

Price, Neco Wire Gauges each \$2.50

No. 700 Brown & Sharpe Pocket Screw Wire Gauges



Angular gauge graduated on the front, at right of slot to show all sizes of American Standard screw gauge from 0 to 30, and is designed

for the measurement of wire as well as of machine screws.

A screw or wire is measured by passing it into the angular opening till it touches on both sides; the division at the point of contact indicates the number of the gauge stamped on the side of the slot. Graduated on left of slot to 32nds of an inch. Reverse side graduated as old or English and new or American wire gauge.

Price, No. 700 each \$3.00

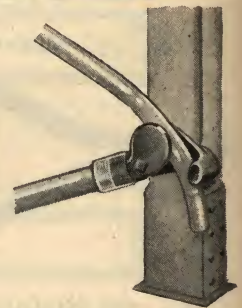
Rittenhouse Conduit Benders

Bender head is a semi-steel casting and will stand all kinds of hard usage. The curved bending bed will not kink or crush the conduit. The adjustable bender has hardened steel points which prevent conduit from slipping. Adjustment can be quickly changed.



Cat. No.	Description	Price Each
1	Complete, for $\frac{1}{2}$ -inch Pipe	\$5.50
1	Head Only, Tapped for $\frac{1}{4}$ -inch Handle	4.00
2	Complete, for $\frac{3}{4}$ -inch Pipe	6.00
2	Head Only, Tapped for $\frac{1}{4}$ -inch Handle	4.50
5	Adjustable, Complete, for $\frac{1}{2}$ or $\frac{3}{4}$ -inch Pipe	7.50
5A	" " Head Only " $\frac{1}{2}$ " $\frac{3}{4}$ " "	6.00

Henderson EZ Conduit Benders



Type EZ is a combination hand hickey and stationary bender. Handles are not supplied. They should be from 3 to 3 $\frac{1}{2}$ feet long. Bends elbows, offsets, or any combination of elbows and offsets, without slipping or distorting the conduit in any way. Made in 3 sizes for hand and stationary bending of $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch conduit.

Size Inches	Description	Std. Pkg.	Price Each
$\frac{1}{2}$	Threaded for 1 -inch Pipe Handle	10	\$2.00
$\frac{3}{4}$	" " $\frac{1}{4}$, " " "	5	2.50
1	" " $\frac{1}{2}$ " " "	3	5.00
*1 $\frac{1}{4}$	" " 2 " " Brace	1	10.00
*1 $\frac{1}{2}$	" " 2 " " "	1	15.00
*2	" " 2 $\frac{1}{2}$ " " "	1	20.00

*Used as shown for stationary bending only.

Burring Reamers



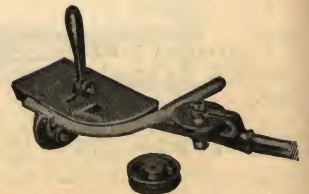
Breaks up chips, cuts deep, does not bind. Spiral flute.

Cat. No.	Capacity Conduit, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
1242	$\frac{1}{4}$ to 1	10	$\frac{7}{16}$	\$1.50
1242 $\frac{1}{2}$	$\frac{1}{4}$ " $\frac{1}{4}$	10	$\frac{1}{2}$	1.75
1244	$\frac{1}{2}$ " 2	10	1 $\frac{1}{2}$	4.00

Standard Conduit Elbow Formers

Forms standard shaped elbows perfectly and accurately, exactly where desired. Saves time and also material by eliminating waste of pipe.

Price, for $\frac{1}{2}$ and $\frac{3}{4}$ -inch Pipe each \$30.00



Lakin Conduit Hickeys

Screw a piece of 1-inch pipe in the other end of coupling. Never necessary to throw away the hickey, even if the handle breaks; simply unscrew the coupling.



Cat. No.	Size Pipe Inches	Std. Pkg.	Price Each
335	$\frac{1}{2}$	10	\$1.75
336	$\frac{3}{4}$	5	2.25



Trimo Pipe Cutters



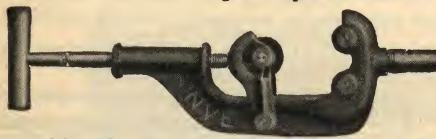
Made with one cutting wheel and two rolls or with three cutting wheels.

No thread in the frame or roll block

to wear out. A small case-hardened nut adjusts the handle screw, and is easily and cheaply replaced when worn, making one of the most economical pipe cutters on the market. Converted into a three-wheel cutter by substituting two wheels for the two rolls.

No.	1	2	3
Cuts Pipe.....inches	$\frac{1}{8}$ to $1\frac{1}{4}$	$\frac{1}{4}$ to 2	1 to 3
Price.....each	\$4.50	\$6.00	\$10.00
“ Extra Wheels.....“	.40	.40	.50
“ “ Rolls.....“	.30	.30	.40
“ “ Nuts.....“	.35	.35	.40
“ Handle only, without Screw Rod “	.50	.50	.50

Nye Pipe Cutters



For use on extra heavy pipe.

Made of fine tool steel tempered in oil. Equipped with Nye Knurled Wheels.

No. 1 Pipe Cutters

No.	Cap. Pipe Inches	Complete	Extra Wheels	Extra Rollers	Extra Handles	Wheel Blocks
1	$\frac{1}{8}$ to $1\frac{1}{4}$	\$3.75	\$.70	\$.24	\$.80	\$.75

No. 2 Pipe Cutters

The bottom of No. 2 cutter frame is tapped for $\frac{1}{2}$ -inch pipe, allowing the use of an extra handle.

No.	Cap. Pipe Inches	Complete	Extra Wheels	Extra Rollers	Extra Handles	Wheel Blocks
2	$\frac{1}{2}$ to 2	\$5.75	\$.80	\$.50	\$1.10	\$1.10

No. 3109-20 Klein Combination Steel Lag Screw Wrenches



This wrench is forged from select bar steel. The slot is formed in a cross shape and will fit machine bolts, nuts or lag screws from $\frac{3}{8}$ -inch to $\frac{5}{8}$ -inch. The small end of the wrench is arranged for $\frac{3}{4}$ -inch machine bolts or lag screws. The round hole allows the end of a bolt to come through as the nut is run on.

The jaw is wider at its lower portion than at the entrance and when this wrench is put on a nut or bolt the tendency is to draw the bolthead or nut into the wrench and prevent slipping off, a most desirable advantage original with this wrench and a real safety feature.

Price, Nos. 3109-20, Length $13\frac{1}{2}$ Inches.....each **\$5.00**

Misener Rotary Hack Saws



Useful for cutting round holes in all kinds of metal, wood, marble, etc. Used by electricians, garage men and sheet metal workers.

Center rotary cuts pipe sizes $\frac{3}{4}$, 1, $1\frac{1}{4}$ and $1\frac{1}{2}$ inches. Outer rotary cuts sizes 2, $2\frac{1}{2}$, 3, $3\frac{1}{2}$ and 4 inches.

Price, Complete.....each	\$13.50
“ Outer Rotary.....“	6.75
“ Center “ with Oscillating Shank....“	7.75
“ Tapered Shank.....“	1.90
“ Straight “.....“	1.75

Beaver Square End Pipe Cutters



This pipe cutter cuts like a lathe tool, each turn removing a thin shaving until the pipe is severed. Leaves no burr to be reamed or filed, or to reduce the capacity of the pipe, and threading dies start easily and with less wear.

Rigid, simple and fool-proof in construction.

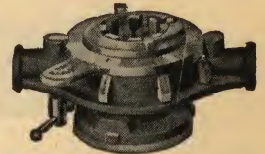
The knives give hundreds of cuts on the hardest pipe, and are easily resharpened.

Nos. 10 and 15 are ratchet operated.

No.	Cap. Pipe In.	Price Each Complete	Knives Price per Set	No.	Cap. Pipe In.	Price Each Complete	Knives Price per Set
1	$\frac{1}{8}$ to 1	\$18.00	\$1.20	10	$2\frac{1}{2}$ to 4	\$90.00	\$2.50
5	$\frac{1}{2}$ “ 2	20.00	1.50	15	$2\frac{1}{2}$ “ 6	180.00	5.00

No. 6 Beaverette Easy Working Die Stocks

Threads all four sizes, $\frac{1}{4}$ to $\frac{3}{4}$ -inch, without changing dies or bushings. A thread may be cut while changing dies in other tools. The two sets of dies covering the different thread pitches are held in one plate, instantly adjusted to any size by the single handle.

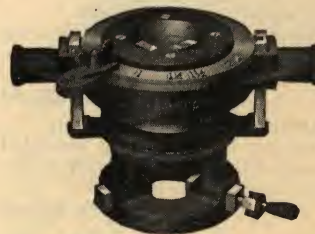


A universal centering device does away with loose bushings.

The No. 6 is a compact tool, complete without loose parts. Right or left hand, as specified.

Price, No. 6, Complete.....each **\$15.00**
 “ Extra Dies, R. or L., $\frac{1}{8}$ or $\frac{1}{4}$ x $\frac{3}{8}$ or $\frac{1}{2}$ x $\frac{3}{4}$ Inches.....per set **3.00**

No. 25 Beaver Easy Working Die Stocks



Threads all sizes 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch, or variations from standard, without changing dies. A universal chuck centers all sizes. No loose bushings.

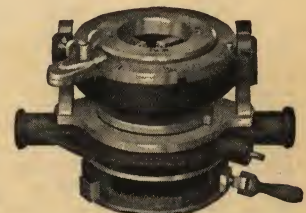
Close nipples may be cut with this tool. Instantly adjusted—simply shift the handle to size and the tool is ready. It

uses narrow receding dies that draw back with each turn, removing less and less metal, thus cutting a standard taper thread and easing the work as the thread is cut.

Price, No. 25, Complete.....each **\$30.00**
 “ Extra Dies 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch, R. H....per set **3.50**

No. 26 Beaver Easy Working Ratchet Die Stocks

Threads all sizes, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch, without changing dies. Provided with ratchet attachment for cutting in confined places, or can be used as a regular stock. Contains a universal chuck which means pipe is always straight, without grip screws or bushings to bother.



Uses detachable leader screw. The ideal tool for threading in confined places or at the bench.

Price, No. 26, Complete.....each **\$35.00**
 “ Extra Dies, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch, R. H....per set **3.50**



Minneapolis Wire Reels and Meters

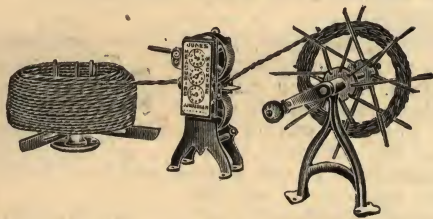
This wire reel and meter is a most desirable machine for measuring the various sizes of wire, cordage, etc. It will save time and money and a short time will demonstrate its great value.

In the meter the wire passes between two self-adjusting rollers, which admit of wide range, and will measure accurately large or small sizes.

Description	Weight Pounds	Price Each
Reel and Meter...	75	\$35.00
Meter Only.....	10	22.50
Counter Meter...	12	23.50
Cable Meter.....	35	35.00



Wire Measuring Outfits



For measuring lamp cords and wires from Nos. 0 to 40 inclusive.

Description	Wt., Lbs. Each	Price Each
Folding Reel.....	3¾	\$6.00
Measuring Machine.....	8	15.00
Folding Wire Winder.....	5½	10.00

Henderson Patent Joist Boring Machines

A portable hand tool, adjustable from 4½ to 12 feet.

Will bore a hole straight through an overhead joist. Ballbearings, with adjustable take-up for wear. Floating chain drive. Universal bit holder, uses standard bits. Positive reverse to back bit out. Weight, 17 pounds.

Price, Boring Machine.....each \$25.00

Boring Machine Parts—Heads Complete

Assembled, mounted in bearing tee, including threaded hollow shaft, sprocket, two cones, two cups, lock washer, jam nut, steel balls, cotter pin, and two-jaw chuck.

Price, Head Complete.....each \$12.50

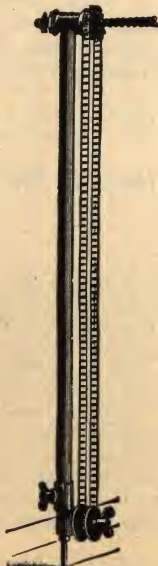
Head Fittings

Furnished mounted on hollow shaft, including sprocket, two cones, two cups, lock washer, jam nut, steel balls, cotter pin, and two-jaw chuck.

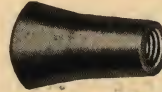
Price, Head Fittings.....each \$8.00

Miscellaneous Parts

Price, Bearing Tee, Complete.....	\$4.50
" Threaded Hollow Shaft.....	3.00
" Sprocket.....	2.50
" Cones..... per pair	1.50
" Cups.....	1.50
" Lock Washer..... each	.40
" Set of 40 Steel Balls.....	.80
" Chuck, Complete..... each	.85
" Cotter Pin.....	.10
" Tee for Middle Joint.....	2.00
" Thumb Screw for Middle Joint..... each	1.20
Price, Nickel Plated Tee for Holding Axle for Fibre Pulley..... each	2.00
Price, Thumb Bolt for Pulley Axle and Tightening Extension..... each	1.20
Price, Fibre Pulley to hold Lower Curve of the Chain..... each	2.00
Price, Complete Chain.....	6.00
" Chain..... per foot	.36



Ackerman-Johnson Expansive Screw Anchors



Anchor Nut

The Ackerman-Johnson Expansive Screw Anchor consists of a hard, bi-conoidal, internally threaded nut, within a lead-composition expansive sleeve.

These are assembled at factory to permit handling as one piece, the sleeve being forced partly over the anchor-nut as shown in assembled illustration.

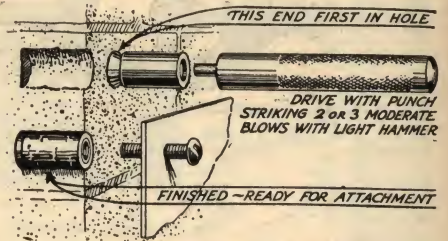
For attaching fixtures or wiring to any stone-like material as concrete, brick, tile, etc., these anchors excel particularly in holding power, ease of installation and neatness of workmanship.



Anchor, Assembled

While their holding power exceeds the tensile strength of screw or bolt of correlating size, they require much smaller drilled hole than other types, thus affording a considerable saving in the labor of drilling; there is further saving of cost in the operation of expanding the anchor, which is done correctly and instantly by means of a setting punch included with every package of 50 or 100 anchors.

When installed, as illustrated, the sleeve is driven farther toward the base of tapered nut, being thereby expanded and wedged tightly against the sides of the hole, giving perfect holding contact throughout the length and circumference of the anchor.



Method of Installing Anchors

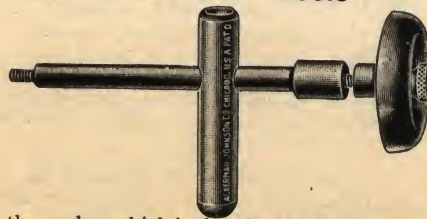
To determine the size of the anchor best suited for the work, first select the screw or bolt preferred and then anchors of corresponding size No. Example: For work demanding No. 10-24 screws, specify No. 10-24 anchor; if ¾-inch bolts are required, then use No. ¾-inch anchor.

Anchors Without Screws

Anchor Size No.	MIN. DIMENSIONS HOLES REQUIRED, INCHES		Wt., Lbs. per 100	Price per 100
	Diam.	Depth		
6x32	¼	¾	7½	\$3.80
8x32	⅜	1½	15	4.50
10x24	⅜	5/8	22½	4.95
12x24	7/8	¾	34	6.50
14x20	1½	1½	50½	7.20
¾x18	¾	1	95	9.75
¾x16	¾	1¼	162	10.80
1½x14	1½	1½	231	12.90
1½x13	1½	1½	221	12.90
5/8x11	1½	2	512	25.00

Packed 50 or 100 in box. Setting punch included in every package.

Ackerman-Johnson Hammerless Setting Tools



Designed to set anchors perfectly in tile or other thin materials in which the hole extends through or has weak bottom.

The stud is screwed into the anchor which is then inserted in position; turning the wheel moves threaded stud rearwards, thus drawing the anchor-nut into its ductile sleeve, expanding the latter to any degree required for safe anchorage.

Price, for Setting Anchor No.	8x32.....	each	\$5.50
" " " " " "	10x24.....	"	.50
" " " " " "	12x24.....	"	1.00
" " " " " "	¼-in. x 20.....	"	1.00



Cinch Anchors

Two-unit System

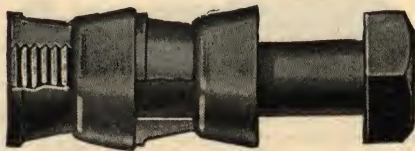


Plain

Threaded



Plain Before Expansion, Fitted with Standard Machine Bolt



Threaded Before Expansion, Fitted with Standard Machine Bolt

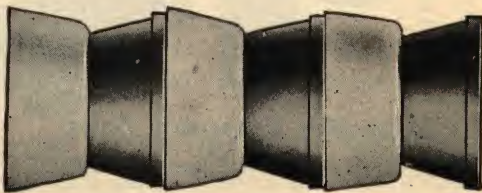
A two-unit anchorage consists of four pieces, two irons and two lead alloys, without bolts; one unit plain and one unit threaded, or both units plain. Two units should be used for anchorage of ordinary strength.

Diam. Bolt In.	Min. Depth Holes In.	Diam. Hole and Drill Required Inches	Price per 100 Sets	Diam. Bolt In.	Diam. of Hole and Drills Required In.	Min. Depth of Hole In.	Price per 100 Sets
3/16	7/8	1 1/2	\$7.00	3/4	1 3/8	2 1/2	\$35.00
1/4	1 1/8	5/8	8.00	7/8	1 1/2	2 3/4	44.00
5/16	1 1/4	5/8	9.00	1	1 5/8	3 1/4	63.00
3/8	1 1/2	13/16	11.00	1 1/8	2	4 1/2	140.00
7/16	1 3/4	13/16	15.00	1 1/4	2 1/8	4 3/4	150.00
1/2	1 7/8	1	18.00	1 1/2	2 3/8	5 1/4	220.00
5/8		1 1/8	24.00	...	...	...	.....

If no 13/16-inch drill is available a 3/4-inch drill can be used.

Cinch Anchors

Three-unit System



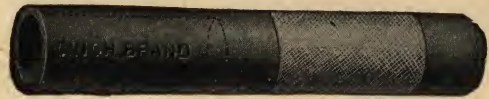
The three-unit anchorage consists of six pieces, three irons and three lead alloys, without bolts; two units plain and one unit threaded, or all three units plain.

Diam. Bolt In.	Min. Depth Holes In.	Diam. Hole and Drill Required Inches	Price per 100 Sets	Diam. Bolt In.	Min. Depth Holes In.	Diam. Hole and Drill Required Inches	Price per 100 Sets
3/16	1 1/8	1 1/2	\$10.50	3/4	3 3/4	1 3/8	\$52.50
1/4	1 5/8	5/8	12.00	7/8	4	1 1/2	66.00
5/16	1 5/8	5/8	13.50	1	4 7/8	1 5/8	94.50
3/8	2 1/4	13/16	16.50	1 1/8	6	2	210.00
7/16	2 1/4	13/16	22.50	1 1/4	6 1/4	2 1/8	225.00
1/2	2 5/8	1	27.00	1 1/2	7 1/4	2 3/8	330.00
5/8	2 7/8	1 1/8	36.00	...	...	...	.....

If no 13/16-inch drill is available, a 3/4-inch drill can be used.

Cinch Brand Calking Tools

For Expanding Cinch Units



Diameter of Bolt Inches	Price Each
3/16	\$.40
1/4	.50
5/16	.50
3/8	.60
7/16	.60

Diameter of Bolt Inches	Price Each
1/2	\$1.85
5/8	1.50
3/4	1.80
7/8	2.10
1	3.40

Cinch Brand Calking Tools

For Threaded Anchors



This calking tool is especially constructed for installing the Cinch threaded expansion units. It enables the user to install two units with a single operation, saving considerable time as it combines calking tool and dummy bolt.

Diameter of Bolt Inches	Price Each
1/4	\$1.85
5/16	.85
3/8	1.00
7/16	1.00

Diameter of Bolt Inches	Price Each
1/2	\$1.10
5/8	1.75
3/4	2.00
...	...

Cinch Brand Four-point Drills



This four-point drill is made of the best quality Swedish steel and is hand forged, not machine cut.

The standard length of this drill is 12 inches. Prices of longer drills upon application.

Diameter of Bolts Inches	Diameter of Drills Inches	Price per Dozen	Diameter of Bolts Inches	Diameter of Drills Inches	Price per Dozen
3/16	1 1/2	\$11.00	1/2	1	\$18.00
1/4	5/8	12.00	5/8	1 1/8	24.00
5/16	5/8	12.00	3/4	1 3/8	35.00
3/8	13/16	16.00	7/8	1 1/2	50.00
7/16	13/16	16.00	1	1 5/8	75.00

Cinch Lead Screw Anchors

For Wood Screws



These are standard lead composition screw anchors for use with wood screws. The screw cuts its own thread.

Size Anchor Inches	Screw	Nos.	Lgth. of Shield Inches	Outside Diameter Inches	Price per 100
1/8 x 3/4	5-6-7		3/4	1/4	\$4.40
3/16 x 3/4	8-9-10-11		3/4	5/16	5.00
3/16 x 1	9-10-11 Light		1	5/16	5.00
3/16 x 1	9-10-11 Heavy		1	3/8	6.00
3/16 x 1 5/8	9-10-11		1 5/8	5/16	6.25
1/4 x 1	12-13-14		1	3/8	5.60
1/4 x 1 1/2	12-13-14		1 1/2	3/8	8.00
5/16 x 1	15-16-17-18		1	7/16	6.25
5/16 x 1 1/2	15-16-17-18		1 1/2	7/16	10.00



Cinch Drive Sleeve Expansion Bolts

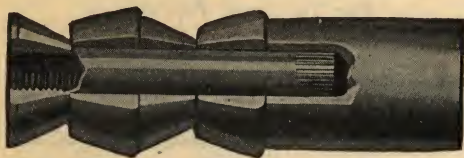


With Drive Sleeve

Without Drive Sleeve

Size Bolt Inches	Diam. Hole Required Inches	DEPTH OF HOLE REQUIRED, INCHES With Sleeve	Without Sleeve	PRICE, PER 100 With Sleeve	Without Sleeve
6x32	1/4	...	3/8	...	\$3.75
8x32	5/16	9/16	1/2	\$5.00	4.40
10x24	3/8	3/4	5/8	5.50	4.85
12x24	1/2	1	7/8	7.25	6.35
1/4x20	5/8	3/8	7/8	8.00	7.00
3/8x16	3/4	...	1	...	10.60
7/16x14	3/4	...	1	...	10.60

Cinch Drive Sleeve Expansion Bolts Two Unit



The Cinch Drive Sleeve Expansion Bolt for the two unit installation is made only in the 1/4-inch size.

It is installed the same as the single unit by simply driving shield into hole with hammer.

This bolt is designed for use where extraordinary strength or anchorage is required.

Size Bolt Inches	Depth of Hole Req'd, In.	Diameter of Hole and Drill Required, In.	Price per 100
1/4	...	5/8	\$12.00

No. 1 Diamond Toggle Bolts



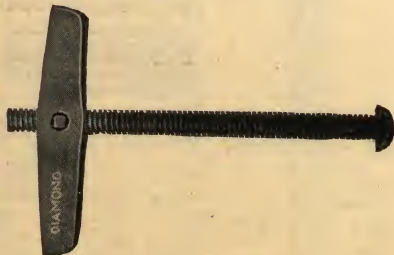
The No. 1 Diamond Toggle Bolt has the threaded bolt riveted to the toggle head.

Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100
1/8 x3	\$7.70	3/16x6	\$9.60	5/16x3	\$17.50	3/8x6	\$31.00
1/8 x4	8.00	1/4 x3	12.50	5/16x4	18.00	1/2x4	32.00
3/16x3	8.00	1/4 x4	13.80	5/16x6	20.00	1/2x6	36.00
3/16x4	8.50	1/4 x5	14.30	3/8 x3	20.00	...	...
3/16x5	9.20	1/4 x6	15.00	3/8 x4	24.00	...	...

No. 5 Diamond Toggle Bolts

A swivel nut is provided in the toggle head which permits a stove bolt being screwed in with a finished head at the outside of the work.

It is furnished with either round or flat slotted head.



Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100
1/8 x3	\$9.00	3/16x4	\$11.00	1/4x3	\$14.00	1/4x6	\$16.00
1/8 x4	9.80	3/16x5	12.00	1/4x4	15.00	...	...
3/16x3	10.00	3/16x6	12.50	1/4x5	15.50	...	...

Diamond N. Y. Expansion Bolts With Malleable Iron Expansion Shields



In ordering specify diameter of screw or bolt to be used and if lag screw shields, specify whether short standard or long standard is wanted.

Prices do not include lag screw or machine bolt.

Diam. Screw Inches	Length Inches	Outside Diam. Inches	Price per 100	Diam. Screw Inches	Length Inches	Outside Diam. Inches	Price per 100
1/4	1 1/2	1/2	\$15.00	5/8	3 1/2	7/8	\$45.00
5/16	1 3/4	9/16	18.00	3/4	3 1/2	1 1/8	65.00
3/8	2 3/4	5/8	25.00	7/8	5	1 3/8	95.00
7/16	2 3/4	11/16	32.00	1	5	1 1/2	110.00
1/2	3 1/2	3/4	38.00	...	...	...	...

Diamond One-part Composition Shields



Inside Diam. Shield	Length of Shield	Outside Diam.	Size Screws	Price per 100
1/8	1/2	1/4	5-6-7	\$4.40
1/8	5/8	1/4	5-6-7	4.40
1/8	3/4	1/4	5-6-7	4.40
3/16	1/2	1/4	8-9-10-11	5.00
3/16	3/4	5/16	8-9-10-11	5.00
3/16	1 Light	5/16	8-9-10-11	5.00
3/16	1 Heavy	5/16	8-9-10-11	5.00
3/16	1 5/8	5/16	8-9-10-11	6.25
1/4	1/2	3/8	12-13-14	5.60
1/4	3/4	3/8	12-13-14	5.60
1/4	1	3/8	12-13-14	5.60
1/4	1 1/2	3/8	12-13-14	8.00
1/4	2	3/8	12-13-14	10.00
1/4	2 1/2	3/8	12-13-14	12.00
5/16	3/4	7/16	15-16-17-18	6.25
5/16	1	7/16	15-16-17-18	6.25
5/16	1 3/8	1/2	15-16-17-18	10.00
5/16	1 1/2	1/2	15-16-17-18	10.00
5/16	2	1/2	15-16-17-18	13.00
3/8	1 1/4	9/16	20-22-24	15.00
3/8	2	9/16	20-22-24	15.00
1/2	2	3/4	26-28-30	25.00
5/8	2	7/8	3/8-in. lag	30.00
5/8	3 1/2	7/8	3/8 " "	50.00

Put up in wooden boxes, 100 to a box.

Di-En-Key Expansion Bolts

With Malleable Iron Expansion Shields



For use in suspension rods for mine hangers, steam and water pipes, sprinkler systems and allied lines. The smaller sizes are adapted to opera chairs and school furniture work.

Prices do not include lag screw or machine bolt.

Diam. Screw Inches	Length Inches	Outside Diam. Inches	Price per 100	Diam. Screw Inches	Length Inches	Outside Diam. Inches	Price per 100
1/4	1	7/16	\$15.00	1/2	2 1/2	7/8	\$38.00
5/16	1 3/4	9/16	18.00	5/8	2 1/2	1	45.00
3/8	2	11/16	25.00	3/4	3 3/4	1 1/4	65.00



Diamond Super-grip Expansion Shields For Machine Bolts

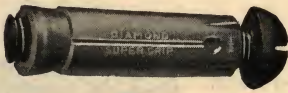


Has cone shaped brass nut and a tubular expansion shield cast of lead and antimony.

Prices do not include machine bolts.

Diameter Bolt Inches	Length Shield Inches	Diameter Hole and Drill, In.	Price per 100	Diameter Bolt Inches	Length Shield Inches	Diameter Hole and Drill In.	Price per 100
3/16	1 1/2	5/16	\$10.00	1/2	2 1/4	4 3/4	\$38.00
1/4	1 1/8	7/16	15.00	5/8	2 5/8	7/8	45.00
5/16	1 1/4	1/2	18.00	3/4	3	1	65.00
3/8	1 3/4	9/16	25.00	..	...	...	...

Diamond Super-grip Expansion Shields For Machine Screws



Has cone shaped brass nut and a tubular expansion shield cast of lead and antimony. Grooves on the side of the shield not cut through, prevent its expansion before it is tightened up in the wall, hold the nut securely in place.

Prices do not include machine screws.

No. Machine Screw	Length Shield Inches	Diameter Hole and Drill, In.	Price per 100
8-32	1 1/2	5/16	\$10.00
10-24	1 1/2	5/16	10.00
12-24	1 1/8	7/16	15.00
14-20	1 1/8	7/16	15.00
18-18	1 1/4	1 1/2	18.00

Diexco Extension Drill Heads



Diexco Drill Heads are not made from steel tubing, but are turned out from solid bar of best refined tool steel, carefully tempered so as to give the correct combination of hardness for the cutting edges and sufficient ductility to prevent breaking under hardest blows of the hammer.

Cat. No.	Size of Pipe Diam. for Handle of Hole Inches	Price per Doz.	Cat. No.	Size of Pipe Diam. for Handle of Hole Inches	Price per Doz.
2	1/8	\$12.00	8	1	\$48.00
3	1/4	12.00	9	1	72.00
4	3/8	12.00	9A	1	88.00
5	1/2	12.00	10	1	108.00
5A	1 1/8	14.40	10A	1	124.00
6	3/4	16.80	11	1 1/4	144.00
6A	1 3/8	30.00	11A	1 1/4	160.00
7	1 1/2	36.00	11B	1 1/4	176.00
7A	1 3/4	42.00	12	1 1/4	192.00

Set made up of one each of Nos. 2, 3, 4 and 5, furnished in wood boxes or on display cards of three sets.

Price, Complete.....per set \$4.00

Diamond N Drill Holders and Points Drill Holders

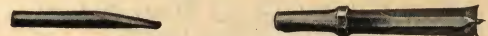


The taper shank on the drill is carefully machined to fit the holder. The transverse hole in the handle is to admit a tapered pin which drives out the point when it is to be removed. The advantage of this drill over the one-piece regular drills is that in the smaller sizes a better grip can be had and a harder blow struck. It is also a great convenience in the reduction in weight of tools to be carried to a job where numerous holes are to be drilled. One holder may be used for many drill points. Worn drill points may be replaced with new drill points and the job continued without interruption.

Holder will take drill points from 1/4 to 3/4 inch.

Price.....per dozen \$24.00

Drill Points



The points are provided with tapered shanks to fit the tapered hole in the holder and drift pins are provided to eject the point when replacement is necessary.

Size Inches	Length Inches	Price per Doz.	Size Inches	Length Inches	Price per Doz.
1/4	4 1/2	\$8.50	1/2	5	\$10.00
5/16	4	8.50	5/8	6 1/4	12.00
3/8	4 1/2	8.50	3/4	6	14.00
7/16	4	9.00	..	...	...

Sets

Set made up of one holder, one ejector pin and six points assorted of any of the above sizes, put up in a wooden box, making a convenient drill outfit in compact form for those requiring various sizes of holes for different diameter of expansion bolts.

Price, Complete.....per set \$7.50

Diamond N 4-point Drills



Recommended for use in brick, softer stone and concrete.

Diam. Drill In.	8	12	18	24	Diam. Drill In.	8	12	18	24
1/4	\$8.25	\$3.50	\$11.00	\$13.50	1 1/4	\$30.00	\$35.00	\$40.00	
5/16	8.25	8.50	11.00	13.50	1 3/8	40.00	45.00	50.00	
3/8	8.25	8.50	11.00	13.50	1 1/2	50.00	56.00	62.00	
7/16	8.70	9.00	11.50	14.00	1 5/8	60.00	66.00	72.00	
1/2	9.65	10.00	12.50	15.00	1 3/4	75.00	81.00	87.00	
9/16 & 5/8	11.65	12.00	15.00	17.50	1 7/8	99.00	97.00	104.00	
11/16 & 3/4	13.70	14.00	17.50	20.00	2	105.00	112.00	120.00	
7/8	15.30	16.00	20.00	22.50	2 1/4	135.00	145.00	165.00	
1	17.00	18.00	22.50	25.00	2 1/2	165.00	175.00	195.00	
1 1/8	.....	24.00	28.00	32.00	...	...	...	...	...

Diamond N Stone Drills



Single cutting edge drill; designed for heavy duty, such as bluestone, granite, etc.

Diam. Drill In.	8	12	18	24	Diam. Drill In.	8	12	18	24
1/4	\$8.25	\$3.50	\$11.00	\$13.50	1 1/4	\$30.00	\$35.00	\$40.00	
5/16	8.25	8.50	11.00	13.50	1 3/8	40.00	45.00	50.00	
3/8	8.25	8.50	11.00	13.50	1 1/2	50.00	56.00	62.00	
7/16	8.70	9.00	11.50	14.00	1 5/8	60.00	66.00	72.00	
1/2	9.65	10.00	12.50	15.00	1 3/4	75.00	81.00	87.00	
9/16 & 5/8	11.65	12.00	15.00	17.50	1 7/8	90.00	97.00	104.00	
11/16 & 3/4	13.70	14.00	17.50	20.00	2	105.00	112.00	120.00	
7/8	15.30	16.00	20.00	22.50	2 1/4	135.00	145.00	165.00	
1	17.00	18.00	22.50	25.00	2 1/2	165.00	175.00	195.00	
1 1/8	.....	24.00	28.00	32.00	...	...	...	...	...



Diamond Rapid Fire Drills



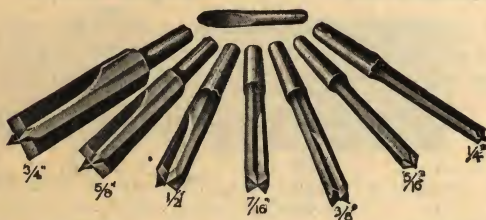
This drill reproduces the same action as is produced with the hand hammer and drill, with greatly multiplied speed.

With every revolution of the crank eight sharp blows are struck. No vibration. Its action is percussive.

Each drill has three adjustments, hard, medium and soft, controlled by a spring lever at the side of the housing. The springs are easily changed by removing the cover of the housing without disarranging or unfastening any of the parts of the mechanism.

Price, Drill Only, without Drill Points.....each \$32.00

Diamond Standard Drill Points



Diam. Inches	Length Inches	Depth Hole Inches	Price Each	Diam. Inches	Length Inches	Depth Hole Inches	Price Each
1/4	4 1/4	3	\$.71	5/8	6	4 1/2	\$ 1.00
5/16	4 1/4	3	.71	3/4	6	4 1/2	1.17
3/8	4 1/4	3	.71	7/8	6 1/2	5	1.33
7/16	4 1/4	3	.75	1	6 1/2	5	1.50
1/2	6	4 1/2	.84	...	...	...	...

Complete Set (7 sizes) 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 3/4 and 1.. \$7.50

Drills and Drill Holders



Hammer Drill



Drill Holder, with Drill in Place



1/2x4-inch Star Drill



1/2x4-inch Combination Drill

Combination hammer drill is a light, highly efficient, rapid and inexpensive outfit especially adapted for the quick installation of expansion bolts. The spring action aids the act of drilling. When used in connection with self clearing bits the one tool does both drilling and setting of the bolt.

Drill holders and drill handles are for use where it is not necessary to go to the expense of the combination drill hammer. The drill holder is for use with short drills. The drill handle can be used with 1/2x12-inch drills only.

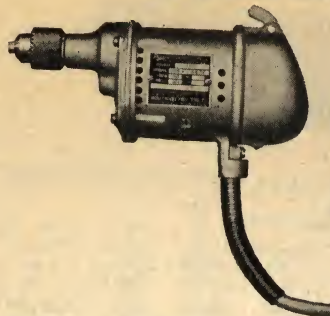
Description	Wt., Lbs. Each	Price Each
Hammer Drill Only.....	2 3/4	\$7.00
Drill Holder.....	1 1/8	1.60
" Handle.....	1/4	1.00

Combination drill bits have patented cross cut teeth with self clearing slots which are great advantages in the quick drilling of holes. These drills are also used to set expansion bolts in hole. Star drills, if desired, can be furnished at same price. When 1/2x12-inch drills are desired for use with drill holder, order should so specify.

Size, In.	Wt., Oz.	Ea.	Price, Ea.	Size, In.	Wt., Oz.	Ea.	Price, Ea.
1/2x 4	3		\$1.40	3/4x12	18		\$2.80
1/2x 6	6		1.60	1x 6	12		3.00
1/2x12	10		1.80	1x12	20		3.40
3/4x 6	8		2.60	.....	..		....

No. UKB Thor Electric Drills

32, 110 or 220 Volts, A.C. or D.C.



Designed for continuous production work, especially where space is limited.

EQUIPMENT.—Aluminum bonnet, Jacobs chuck, cord and socket plug.

Specify voltage.

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UKB	3/16	3500	3 3/8	\$50.00

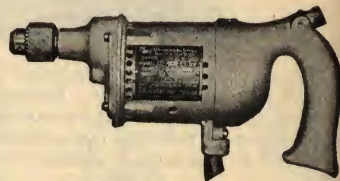
No. UKC Thor Electric Drills

32, 110 or 220 Volts, A.C. or D.C.

Push button switch with double action. Button will stay down with current on, leaving fingers free and the switch is released and current cut off by slight pressure on side button.

EQUIPMENT.—Grip switch handle, Jacobs chuck, cord and socket plug.

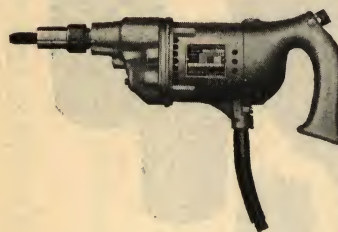
Specify voltage.



Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UKC	3/16	3500	4 3/8	\$50.00

Thor Electric Screwdrivers

32, 110 or 220 Volts, A.C. or D.C.



EQUIPMENT.—Grip switch handle, No. 0 screwdriver attachment, cord and socket plug. No. UKF has aluminum bonnet in place of grip handle.

Specify voltage.

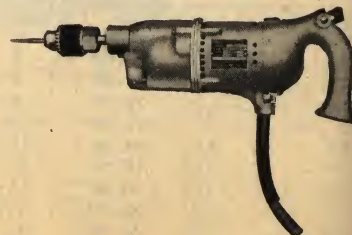
Cat. No.	Capacity Screws	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UKH	No. 10 and Smaller	400	5 5/8	\$65.00
UKF	" 10 " "	400	4 3/4	65.00

No. UKR Thor Reversible Tapping Machines

32, 110 or 220 Volts, A.C. or D.C.

EQUIPMENT.—Grip switch handle, 5/16-inch Jacobs chuck, cord and socket plug.

Specify voltage.

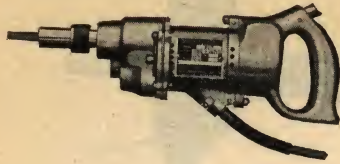


Cat. No.	Tapping Capacity Inches	Retapping Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UKR	3/16	5/16	550	6 3/4	\$68.00



Thor Electric Screwdrivers

32, 110 or 220 Volts, A. C. or D. C.



EQUIPMENT.—Grip switch handle, hollow spindle, No. 3 screwdriver attachment, cord and socket plug. No. UBL has, in addition, a $\frac{3}{8}$ -inch Jacobs chuck, for drilling.

Specify voltage.

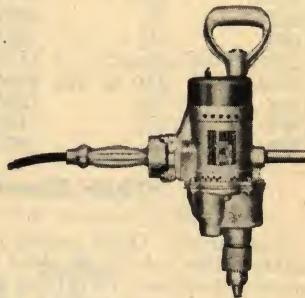
Cat. No.	Capacity Screws	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UBG	No. 10 to No. 16	755	8 $\frac{1}{2}$	\$82.00
UBL	" 10 " " 16	755	8 $\frac{1}{2}$	87.00

Thor Electric Drills

32, 110 or 220 Volts, A. C. or D. C.

EQUIPMENT.—Side handle switch, threaded spindle, Jacobs chuck, spade handle, dead handle, cord and socket plug.

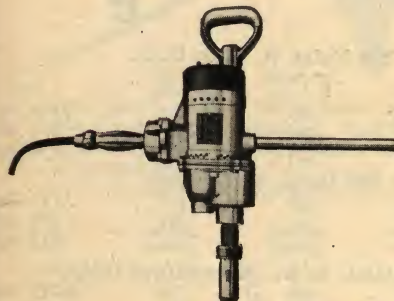
Specify voltage.



Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UDA	$\frac{1}{2}$	700	17 $\frac{1}{2}$	\$95.00
UDB	$\frac{9}{16}$	700	17 $\frac{1}{2}$	100.00

No. UDE Thor Electric Screwdrivers

32, 110 or 220 Volts, A. C. or D. C.



EQUIPMENT.—Side handle switch, spade handle, dead handle, threaded spindle, No. 5 screwdriver attachment, cord and socket plug.

Specify voltage.

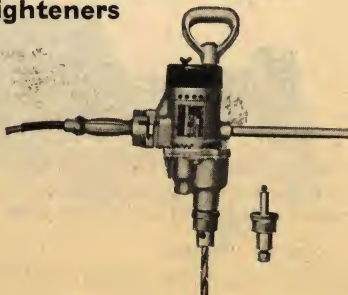
Cat. No.	Capacity Screws	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UDE	No. 16 and Up	550	17 $\frac{1}{2}$	\$110.00

No. UDK Thor Quick Interchangeable Electric Drill, Screwdriver and Nut Tighteners

32, 110 or 220 Volts, A. C. or D. C.

EQUIPMENT.—Side handle switch, spade handle, dead handle, hollow spindle, chuck for drilling, and screwdriver attachment for driving screws or bolts and running on nuts, cord and socket plug.

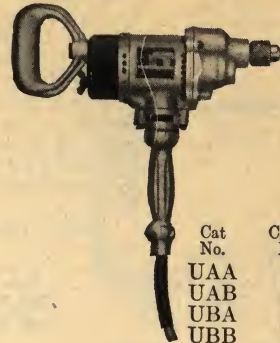
Specify voltage.



Cat. No.	Cap. In.	Wood Boring In.	Capacity Screws	Cap. Run on Free Bolts Nuts Speed In. In. R.P.M.	Wt. Lbs. Each	Price Each
UDK	$\frac{5}{8}$	1 $\frac{1}{4}$	No. 16 and Up	$\frac{1}{2}$ $\frac{5}{8}$ 550	20 $\frac{1}{2}$	\$125.00

Thor Electric Drills

32, 110 or 220 Volts, A.C. or D.C.



Three-conductor safety cable furnished.

EQUIPMENT.—Side handle switch, threaded spindle, spade handle, Jacobs chuck, cord and socket plug.

Specify voltage.

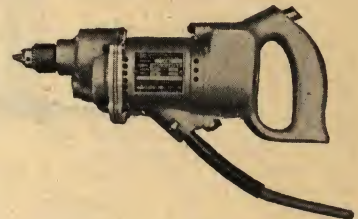
Cat. No.	Capacity Inches	Free Speed R.P.M.	Wt., Lbs. Each	Price Each
UAA	$\frac{1}{4}$	2500	6	\$60.00
UAB	$\frac{5}{16}$	1850	6	60.00
UBA	$\frac{5}{16}$	1100	8	70.00
UBB	$\frac{3}{8}$	755	8	70.00

Thor Electric Drills

32, 110 or 220 Volts, A.C. or D.C.

EQUIPMENT.—Grip switch handle, threaded spindle, Jacobs chuck, cord and socket plug.

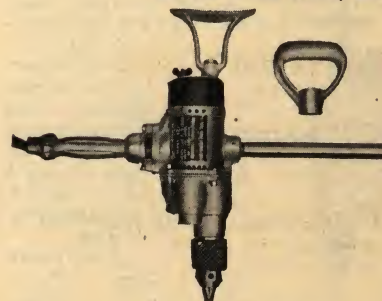
Specify voltage.



Cat. No.	Capacity Inches	Free Speed R.P.M.	Wt., Lbs. Each	Price Each
UAC	$\frac{1}{4}$	2500	6	\$63.00
UAD	$\frac{5}{16}$	1850	6	63.00
UBC	$\frac{5}{16}$	1100	8 $\frac{1}{2}$	72.00
UBD	$\frac{3}{8}$	755	8 $\frac{1}{2}$	72.00

No. UHB Thor Electric Drills

32, 110 or 220 Volts, A.C. or D.C.



EQUIPMENT.—Side handle switch, threaded spindle, Jacobs chuck, dead handle, and choice of breast plate or spade handle, cord and socket plug.

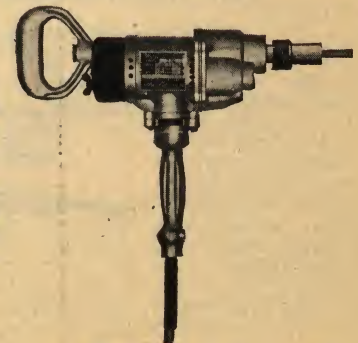
Specify voltage.

Cat. No.	Capacity Inches	Free Speed R.P.M.	Wt., Lbs. Each	Price Each
UHB	$\frac{1}{2}$	755	8 $\frac{1}{2}$	\$75.00

Thor Electric Screwdrivers

EQUIPMENT.—Side handle switch, spade handle, hollow spindle, No. 3 screwdriver attachment, cord and socket plug. No. UBK has in addition, a $\frac{3}{8}$ -inch Jacobs chuck, for drilling.

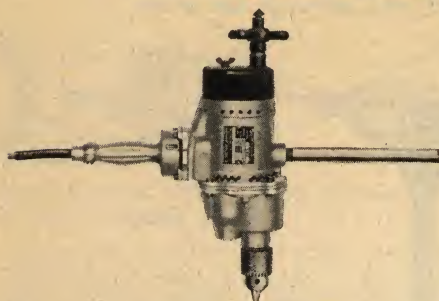
Specify voltage.



Cat. No.	Capacity Screws	Free Speed R.P.M.	Wt., Lbs. Each	Price Each
UBE	No. 10 to No. 16	755	8 $\frac{1}{2}$	\$80.00
UBK	" 10 " " 16	755	8 $\frac{1}{2}$	85.00

**Thor Electric Drills**

32, 110 or 220 Volts, A. C. or D. C.



Also made for direct current only.

EQUIPMENT.—Side handle switch, dead handle, threaded spindle, Jacobs chuck, feed screw, cord and socket plug.

Specify voltage.

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UDN	1/2	700	17 1/2	\$95.00
UDP	3/8	700	17 1/2	100.00

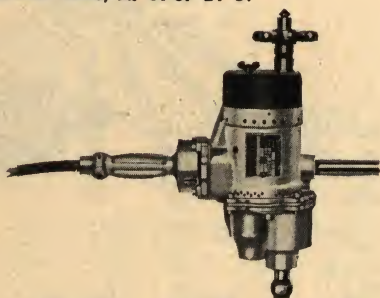
Thor Electric Drills

32, 110 or 220 Volts, A. C. or D. C.

Also made for direct current only.

EQUIPMENT.—Side handle switch, dead handle, hollow spindle, No. 1 Morse taper socket, feed screw, cord and socket plug. No. UDY has, in addition, 3/8-inch Jacobs chuck.

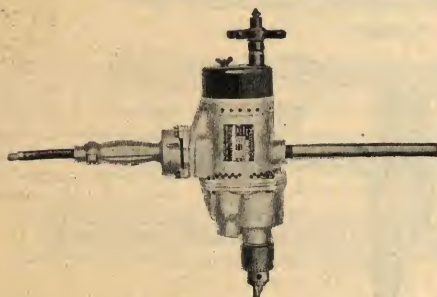
Specify voltage.



Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UDT	3/8	700	17 1/2	\$100.00
UDY	3/8	700	17 1/2	105.00

No. UEN Thor Electric Drills

[32, 110 or 220 Volts, A. C. or D. C.]



Also made for direct current only.

EQUIPMENT.—Side handle switch, dead handle, threaded spindle, Jacobs chuck, feed screw, cord and socket plug.

Specify voltage.

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UEN	5/8	550	18	\$105.00

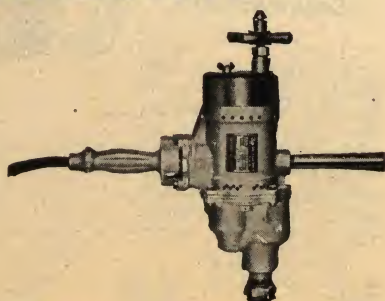
No. UES Thor Electric Drills

32, 110 or 220 Volts, A. C. or D. C.

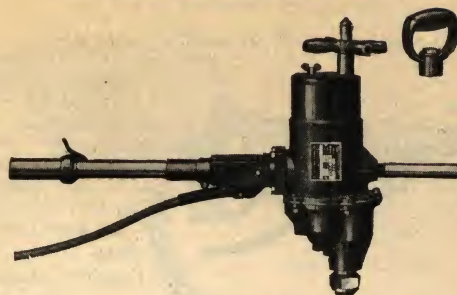
Also made for direct current only.

EQUIPMENT.—Side handle switch, dead handle, hollow spindle, No. 2 Morse taper socket, feed screw, cord and socket plug.

Specify voltage.



Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
UES	3/4	550	18	\$115.00

Thor Electric Drills

EQUIPMENT.—Quick acting positive safety switch, side handle, dead handle, choice of feed screw for drilling or spade handle for reaming, No. 2 Morse taper socket and cord. No. 3 Morse taper socket can be furnished if specified. Operate direct from service line. Specify voltage.

110 or 220 Volts, A. C. or D. C.

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
U2X	7/8	725	40	\$135.00
U2Y	7/8	620	40	135.00
U2Z	7/8	470	40	135.00

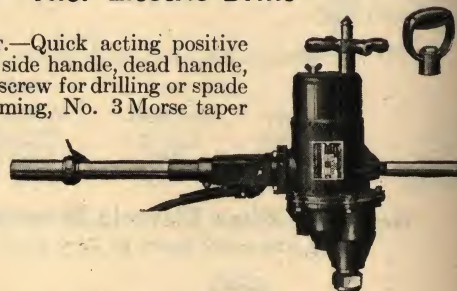
110 or 220 Volts, D. C. Only

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
D2X	7/8	600	40	\$135.00
D2Y	7/8	480	40	135.00
D2Z	7/8	375	40	135.00

Thor Electric Drills

EQUIPMENT.—Quick acting positive safety switch, side handle, dead handle, choice of feed screw for drilling or spade handle for reaming, No. 3 Morse taper socket and cord. Operate direct from service line.

Specify voltage.

**110 or 220 Volts, A. C. or D. C.**

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
U3X	1 1/4	780	50	\$175.00
U3Y	1 1/4	600	50	175.00
U3Z	1 1/4	465	50	175.00

110 or 220 Volts, D. C. Only

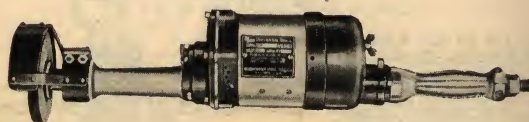
Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
D3X	1 1/4	630	50	\$175.00
D3Y	1 1/4	515	50	175.00
D3Z	1 1/4	380	50	175.00

110 or 220 Volts, D. C.—Compound Only

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
C3W	1 1/4	600	50	\$175.00
C3X	1 1/4	480	50	175.00
C3Y	1 1/4	400	50	175.00
C3Z	1 1/4	300	50	175.00

No. 6 Thor Universal Grinders

32, 110 or 220 Volts, A. C. or D. C.



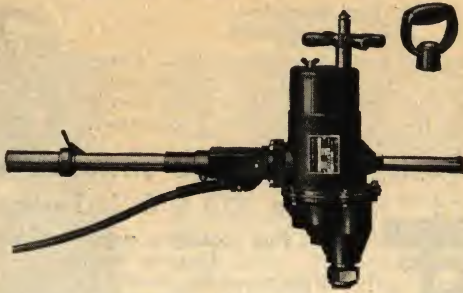
EQUIPMENT.—Straight handle switch, emery wheel, emery wheel guard, cord and socket plug.

Specify voltage.

Cat. No.	Size Wheel Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
6	4x3/4x1 1/2	4500	16	\$92.00



Thor Electric Drills



EQUIPMENT.—Quick acting positive safety switch, side handle, dead handle, choice of feed screw for drilling or spade handle for reaming, No. 4 Morse taper socket and cord. Operate direct from service line. Specify voltage.

110 or 220 Volts, D. C. Only

Cat. No.	Capacity Inches	Free Speed R. P. M.	Wt., Lbs. Each	Price Each
D4X	2	530	75	\$225.00
D4Y	2	425	75	225.00
D4Z	2	330	75	225.00

110 or 220 Volts, D. C.—Compound Only

C4W	2	435	75	\$225.00
C4X	2	370	75	225.00
C4Y	2	270	75	225.00
C4Z	2	225	75	225.00

Thor Electric Drills

110 or 220 Volts, D.C.—Compound Only



EQUIPMENT.—No. 3 Morse taper socket is standard, No. 4 Morse Taper socket optional. Quick acting positive safety switch, side handle, dead handle, choice of feed screw for drilling or spade handle for reaming, Morse taper socket and cord. Operate direct from service line. Specify voltage.

Cat. No.	Drilling Cap., In.	Reaming Cap., In.	Speed R. P. M.	Wt., Lbs. Each	Price Each
C33X	1 1/4	15/16 Light	730	60	\$225.00
C33XY	1 1/4	15/16 " "	600	60	225.00
C33Y	1 1/4	15/16 Medium	465	62	225.00
C33YZ	1 1/4	15/16 Heavy	380	62	225.00
C33Z	1 1/4	15/16 " "	320	62	225.00

Thor Electric Grinder Stands

For No. 6 Thor Grinder



Insert Thor Grinder under clamp band and turn hand thumb nut.

Bench Space Inches	Wt., Lbs. Each	Price Each
5x7 3/8	10 1/2	\$20.00

Thor Electric Drill Stands



No. UB is designed for Nos. UBA, UBB, UBK and UHB Thor Electric Drills—5/8 and 3/4-inch.

No. UD is designed for Nos. UDA, UDB, UDN, UDP, UDT, UDY Thor Electric Drills—1/2 and 5/8-inch.

Cat. No.	Vertical Movement Inches	Adjusted Vertically Inches	Bench Space Inches	Wt., Lbs. Each	Price Each
UD	6 3/4	18 3/4	15x9	40	\$35.00
UB	6 3/4	16 1/4	15x9	40	35.00

E. M. T. Electric Hammers

110 or 220 Volts, A. C. or D. C.



Models D-3 and U-2

This tool is designed for drilling concrete, brick, and stone, especially where there are a large number of holes to be drilled in one place.

The principle upon which this tool is built consists of a magnetic cushion interposed between the reciprocating hammer element and the motor.

This cushion absorbs the shock and strain incident to the delivery of the blow and the movement of the plunger.

The hammers are built in four sizes and are recommended to take drills from 1/4 to 1 1/2 inches in diameter, the standard star, diamond, or hollow types being used with these tools.

These tools can be used also for chipping, calking, bush-hammering, etc.



Models D-4 and U-6

Direct Current 110 or 220 Volts

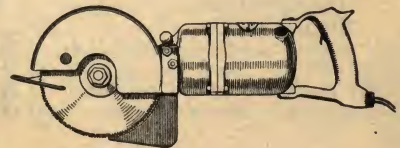
Model	Cap. Concrete Inches	In Blows per Min.	Length Stroke Inches	Power Consump. Watts	Weight Pounds	Price Each
D-3	1/2	3000	1/2	120	14 1/2	\$250.00
D-4	1	1800	1 1/2	220	25	300.00
D-9	1 1/2	1100	3	550	75	480.00

Universal, to Operate on Either Direct or Alternating Current 110 or 220 Volts

Model	Cap. Concrete Inches	In Blows per Min.	Length Stroke Inches	Power Consump. Watts	Weight Pounds	Price Each
U-2	1/2	3000	1/2	150	15	\$300.00
U-6	1	1800	1 1/2	240	27	370.00

With each hammer is included one drill or two chisel blanks of any size and up to 12 inches in length.

Skilsaw Electric Hand Saws



Cuts any material up to 2 3/4 inches in depth, grooves accurately, cuts straight, needs no physical effort, is fool proof and safe. The entire weight of 11 pounds rests on the front guide while in operation. All shafts run through selected Norma ball bearings, and the entire device complies with Underwriters' specifications. Steel parts are rust proofed and body of machine is made of aluminum.

Price, Skilsaw.....each \$140.00

Price of cutters upon application.

**No. 32 C & L Torches****For Gasoline
Single Needle**

Makes a perfect fire regardless of wind and cold. Strong reinforced brass tank. Has plunger pump on tank and removable hook on burner. Capacity, one quart. Shipping weight, 4½ pounds.
Price, No. 32.....each \$16.00

No. 38 C & L Torches**For Gasoline
Single Needle**

Fitted with improved burner that protects the gas from wind or cold. Has automatic brass pump with check valve. Has removable hook on burner. Capacity, one pint. Shipping weight, 3 pounds.
Price, No. 38.....each \$14.40

**No. 48 C & L Torches****For Gasoline and Kerosene
Double Needle**

Fitted with improved double blunt needle burner. The pump is automatic. Removable hook on burner. Capacity, one pint. Shipping weight, 4¼ pounds.
Price, No. 48.....each \$18.40

**No. 130 C. & L. Torches****For Gasoline
Single Needle**

Burner is of bronze metal and produces a steady blue flame. Has sharp pointed needle with metal wheel handle; removable hook on burner. Capacity, one quart. Shipping weight, 2¾ pounds.
Price, No. 130.....each \$12.00

**No. 144 C & L Torches****For Gasoline
Single Needle**

Has tank of polished brass, funnel shaped. Burner is of bronze metal and produces a steady blue flame. Has plunger pump on tank and removable hook on burner. Capacity, one quart. Shipping weight, 4¼ pounds.
Price, No. 144.....each \$10.00

**No. 146 C & L Torches****For Gasoline
Single Needle**

Tank is funnel shaped and made of brass. Burner made of bronze metal; produces steady blue flame. Has plunger pump on tank and removable hook on burner. Pint size. Shipping weight, 2¾ lbs.
Price, No. 146.....each \$9.00

**No. 148 C & L Torches****For Gasoline
Single Needle**

Tank is of brass with funnel shaped bottom. Has removable hook on burner. Bronze burner produces steady blue flame. Capacity, one quart. Shipping weight, 4 pounds.
Price, No. 148.....each \$10.00

**No. 206 C & L Torches****For Gasoline and Kerosene
Double Needle**

Designed for extra heavy work requiring intense heat and burns perfectly in the wind and zero weather. Burner hook is removable. Capacity, two quarts. Shipping weight, 10½ pounds.
Price, No. 206.....each \$32.00

**No. 208 C & L Torches****For Gasoline
Double Needle**

A powerful torch, strong and rigid. Burner hook is removable. Upper needle has a wire tip that cleans the orifice, lower needle regulates the flame. Capacity, one quart. Shipping weight, 5½ pounds.
Price, No. 208.....each \$17.00

**No. 210 C & L Torches****For Gasoline and Kerosene
Double Needle**

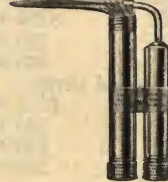
Upper needle cleans the orifice, lower needle regulates flame. Both are blunt. Has plunger pump on tank; removable hook on burner. Capacity, one pint. Shipping weight, 4 pounds.
Price, No. 210.....each \$15.40



Fig. 3256

Lenk Automatic Blow Torches**For Alcohol**

No pumping, no priming, blows itself. Flame heat, 1400°. Made of brass, heavily nicked and polished. Non-leakable. For electricians, mechanics, and motorists. Size, 5½x2x7/8 inches. Packed six in carton.
Price.....each \$1.50

**Lenk Spartan Torches****For Alcohol**

A full size alcohol blow torch complete with ebony-finish mouth piece and rubber tube. Produces 1200° needle point flame. For long continued service. A tool for mechanics. Packed in individual cartons.
Price.....each \$2.00

**Lenk Handy Blow Torches****For Alcohol**

A handy torch for any soldering purpose. Made of brass, heavily nicked and polished. Produces 1200° needle-point flame. Size, 5x7/8 inches. In lots of six on counter display card.
Price.....each \$.75

**Lenk Imp Torches****For Gasoline**

Entirely automatic. Starts with a match. Perfect Bunsen flame of over 2000°. No pumping, no blowing. For jobs requiring a melting, fusing or brazing heat. Packed one in carton.
Price.....each \$1.75

**Lenk Jumbo Blow Torches****For Alcohol**

An extra large mouth-blow torch. Produces a 1200° needle-point flame. Made of brass, heavily nicked and polished. Ebony finished mouth piece on rubber tube. Size, 6x1½ inches. Packed six in carton.
Price.....each \$1.00

**Lenk Midget Blow Torches****For Alcohol**

Vest pocket torch. Appeals to home experimenters, boy mechanics, radio fans. Made of brass, heavily nicked finish. Produces 1200° needle-point flame. Size, 3x1/8 inches. Packed one dozen in carton.
Price.....each \$.50





No. 1 C & L Fire Pots

For Gasoline Double Needle



No. 1 fire pot is made of heavy gauge seamless drawn steel reinforced, tinned inside and out, with cushion protection band, large funnel and filler plug having dustproof cap.

The improved double needle burner gives satisfactory results under the most severe conditions. Swiveled burner permits moving the flame up or down. Top section can be removed, thus producing an open fire. Plunger pump on tank.

Is 13 inches high, 9 $\frac{5}{8}$ inches diameter at base and 6 $\frac{3}{4}$ at top.

Capacity, one gallon. Shipping weight, 14 pounds.
Price, No. 1.....each \$27.20

No. 12 C & L Coil Fire Pots

For Gasoline

Tank is made of heavy gauge seamless drawn steel, tinned inside and out, and fitted with cushion protection band at base of tank.

No. 12 fire pot has brass ears, elbows, and tees, air valve and bulb, large funnel, and filler plug with dust-proof cap, three-piece coil cup and top plate which enables the operator to remove top section by unscrewing three large nuts, exposing the burner and coil.

No coil cup lugs or small nuts to burn off.

Capacity, one gallon.



Price, No. 12.....each \$14.00

No. 22 C & L Fire Pots

For Gasoline



The tank is made of heavy gauge seamless drawn steel, tinned inside and out, and fitted with cushion protection band at base of tank.

It is supplied with brass ears, elbows, and tees, plunger pump on tank, large funnel, and filler plug with dust-proof cap and three-piece coil cup and top plate.

The three-piece coil cup and top plate enables the operator to remove top section by unscrewing three large nuts, exposing the burner and coil.

No coil cup lugs or small nuts to burn off.

Capacity, one gallon.

Price, No. 22.....each \$15.00

No. 71 C & L Fire Pots

For Gasoline Double Needle

The tank is made of heavy gauge, seamless drawn steel reinforced, tinned inside and out, and fitted with cushion protection band, large funnel and filler plug and improved automatic brass pump.

Not affected by wind or storm. Smokeless, odorless and noiseless. The improved double needle burner produces the highest degree of heat from the fuel. A sub-flame for the generator allows the heating flame to be turned low if desired.

Plunger pump on tank.

Capacity, one gallon. Shipping weight, 14 $\frac{1}{4}$ pounds.

Price, No. 71.....each \$27.20



No. 221 C & L Fire Pots

For Kerosene



The No. 221 kerosene fire pot has a powerful burner that superheats the kerosene gas before it is burned, producing perfect combustion and the maximum degree of heat. The tank is made of heavy gauge seamless drawn steel, reinforced, tinned inside and out, fitted with patented cushion protection band, preventing injury to base of tank, large funnel and filler plug, having dust-proof cap. The air valve screw in the filler plug releases the air pressure to extinguish the flame. Has pump attached to tank.

Capacity, $\frac{3}{4}$ gallon. Shipping weight, 13 $\frac{1}{2}$ pounds.

Price, No. 221.....each \$33.60

No. 222 C & L Fire Pots

For Kerosene

Has a removable hood made of heavy gauge sheet steel that will admit of two large size soldering coppers. Equipped with a powerful burner which produces perfect combustion and the maximum degree of heat.

The tank is made of heavy gauge seamless drawn steel, reinforced, tinned inside and out, fitted with cushion protection band, large funnel and filler plug, having dust proof cap. The air valve screw in the filler plug releases the air pressure to extinguish the flame. Has pump attached to tank.

Capacity, $\frac{3}{4}$ gallon. Shipping weight, 16 pounds.

Price, No. 222.....each \$35.20



No. 223 C & L Fire Pots

For Kerosene



The No. 223 fire pot has a large cast top plate and a large hood and extra heavy iron handle.

The tank is made of heavy gauge seamless drawn steel, reinforced, tinned both inside and out, fitted with cushion protection band preventing injury to base of tank, large funnel and filler plug with dust proof cap.

The burner produces a clear blue flame, free from smoke and odor.

A cleaning needle is included.

Capacity, $\frac{3}{4}$ gallon. Shipping weight, 15 pounds.

Price, No. 223.....each \$37.60

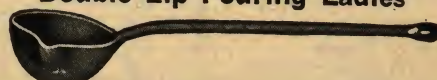
Cast Iron Melting Pots

Designed for melting lead and solder. Used by electricians in soldering heavy splices, trimming large cables and busbar joints, wiping joints on lead cover cables, etc.

Price, 5-inch Pots.....each \$1.20
" 6 " "each 1.70
" 8 " "each 4.40



Double Lip Pouring Ladles



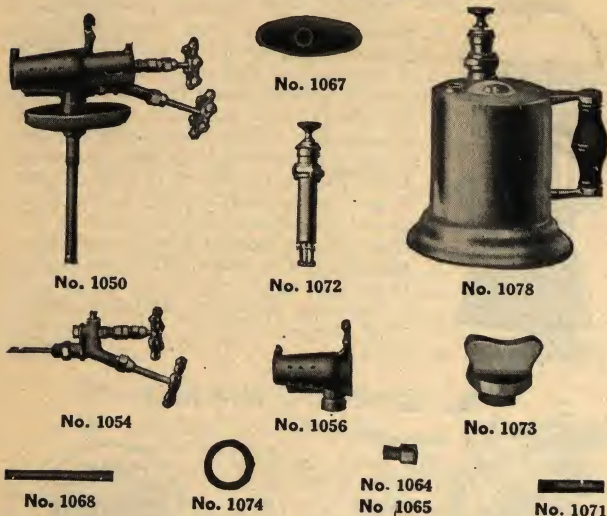
Used to pour lead or solder in making wiped or soldered joints in lead covered cables, large stranded cables, and other electrical construction.

Price, 2 $\frac{1}{2}$ -inch Ladles.....each \$.60
" 3 " "each .70



Repairs for C & L Double Needle Torches

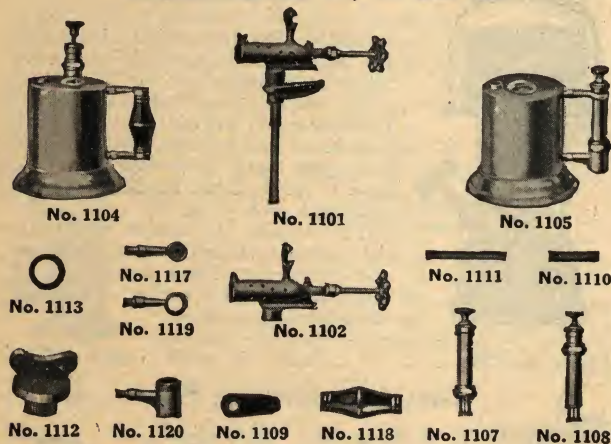
Nos. 206, 208, 210 and 48



Part No.	Description	FOR TORCHES—PRICE, EACH—			
		206	208	210	48
1050	Burner Complete.....	\$11.00	\$7.50	\$7.50	\$7.50
1054	Back Burner Complete..	3.10	2.40	2.40	2.40
1056	Burner Body.....	3.50	3.25	3.00	3.25
1064	Gasoline Jet Block.....	.25	.25	.25	.25
1065	Kerosene " ".....	.25	.25	.25	.25
1067	Drip Cup and Screw....	1.30	1.30	1.30	1.30
1068	Dip Tube.....	.70	.70	.70	.70
1071	Nipple.....	1.20	.30	.30	.30
1072	Pump Complete.....	4.80	2.60	2.60	2.60
1073	Filler Plug.....	2.00	.80	.80	.80
1074	" " Washer.....	.10	.10	.10	.10
1078	Tank Complete.....	22.50	9.60	8.00	12.00

Repairs for C & L Single Needle Torches

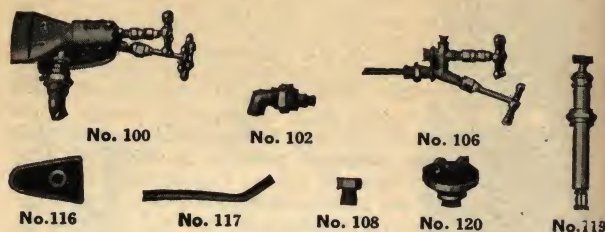
Nos. 32, 38, 130, 144, 146 and 148



Part No.	Description	FOR TORCHES—PRICE, EACH—				
		32	130, 144	148	38	146
1101	Burner Comp.....	\$6.60	\$5.00	\$5.00	\$6.35	\$5.00
1102	" Body Comp.	5.00	3.60	3.60	4.75	3.60
1104	Tank Comp.....	9.60	9.00	9.00	8.00	7.50
1105	" Only.....	7.00	6.40	6.40	6.50	6.00
1108	Pump Comp.....	2.60	2.60	2.60	2.60	2.60
1107	" ".....			2.60		
1109	Drip Cup.....	1.30	1.30	1.30	1.30	1.30
1110	Burner Nipple.....	.30	.30	.30	.30	.30
1111	Dip Tube.....	.70	.70	.70	.70	.70
1112	Filler Plug.....	.80	.80	.80	.80	.80
1113	" " Washer..	.10	.10	.10	.10	.10
1117	Handle Bracket.....	.50	.50	.50	.50	.50
1118	Ebonite Handle and Screws ..	.50	.50	.50	.50	.50
1119	Upper Bracket.....	.50	.50	.50	.50	.50
1120	Lower ".....	.50	.50	.75	.50	.50

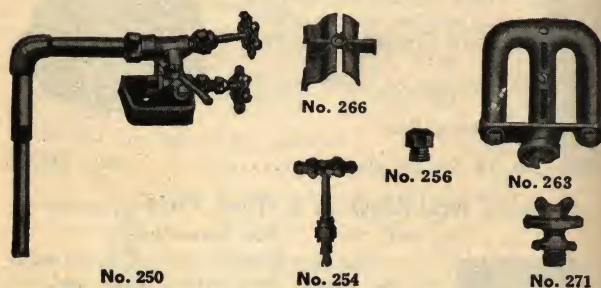
Repairs for C & L Fire Pots

No. 1



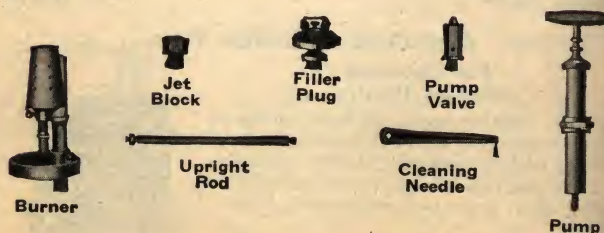
Part No.	Description	Price Each
100	Double Needle Burner with Swivel.....	\$8.00
102	Swivel.....	2.00
106	Back Burner with Vein Tube.....	3.10
108	Gasoline Jet Block.....	.25
116	Drip Cup.....	1.30
117	Feed Pipe.....	1.00
119	Pump Complete.....	2.60
120	Filler Plug with Dust-proof Cap.....	1.50

No. 71



Part No.	Description	Price Each
250	Generator Complete.....	\$6.80
254	Long Needle and Stuffing Box.....	1.00
255	Short Needle, Stuffing Box and Stop Nut.....	1.55
256	Gasoline Jet Block.....	.25
263	Burner Plate Tubes and Plugs.....	4.40
266	Flame Plate.....	.40
271	Filler Plug.....	1.50

Nos. 221, 222 and 223



Description	Price Each
Burner.....	\$10.00
Jet Block.....	.50
Filler Plug.....	2.00
Upright Rod.....	.35
Cleaning Needle.....	.30
Pump.....	4.80
" Valve.....	.75

Repairs for C & L Fire Pots

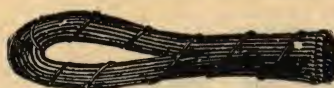
Nos. 12 and 22



Description	FOR FIRE POTS—PRICE, EACH	
	12	22
Plug.....	\$.20	\$.20
Malleable Tee.....	.25	.25
Brass ".....	.50	.50
Malleable Ell.....	.25	.25
Brass ".....	.35	.35
Bottom Nut.....	.10	.10
Top ".....	.08	.08
Coil Cup.....	.80	.80
Burner.....	.35	.35
Wire for Coil.....	.20	.20
Dip Tube.....	.35	.35
Connecting Pipe.....	.30	.30
Filler Plug.....	1.50	1.50
Handle Ear.....	.30	.30
Upright.....	.30	.30
Handle.....	1.00	1.00
Air Valve.....	1.00	1.00
Coil.....	1.50	1.50
Valve.....	1.50	1.50
Pump.....	2.60	2.60
Bulb.....	1.00	1.00
Top Plate.....	1.00	1.00
Bushing.....	.60	.60
No. 1 Shield.....	2.00	2.00
" 3 ".....	4.00	4.00
Steel Tank.....	10.00	10.00

In ordering repairs state fire pot number.

Half and Half Wire Solder



This solder is an alloy of tin and lead. Furnished in the form of thin wire for convenience in making small joints.

Put up in coils any weight desired and on spools of 25, 50 and 100 pounds.

Price, Wire Solder.....per pound **\$1.00**

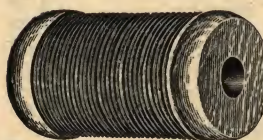
Bar Solder



An alloy of tin and lead, made up in the form of bars for convenience in handling, for making soldered joints in metals, such as lead piping systems, for cable splices and other heavy work.

Price, Solder in Regular Bars.....per pound **\$1.00**

Wire Solder



This solder is an alloy of tin and lead, and is furnished in the form of thin wire for the convenience of wiremen and other electricians in making small joints in conductors and other apparatus.

Price, Wire Solder.....per pound **\$1.00**

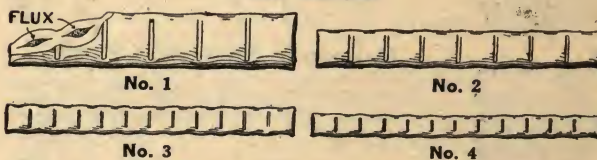
Resin Core Flux Solder



This solder is provided with a core of resin which melts on the application of heat and prevents the formation of oxides, thus permitting the making of a strong bond between the metals.

Price, 1-pound Spools..per pound **\$1.00**
 " 5 " " and Over
per pound **1.00**

Flux Solder



This solder is a seamless tube, the core of which is filled with flux. The tubing is made in wire form and contains many cells. Each one of these cells is filled with just the proper amount of flux, which flows with the solder. As each cell is separated from the other, no excess of flux can flow out. Eliminates all soldering waste. Requires no separate flux as the solder as used supplies its own flux. No time is lost in preparing or applying either flux or acid.

Illustrations show the actual sizes in which the solder is furnished; made up in 18-inch strips.

Price.....per pound **\$1.00**

Soldering Coppers



Furnished without handle but having an iron rod fastened to the head, ready to be driven into a wooden handle. Supplied in all sizes. Prices upon application.



No. 293 G-E Soldering Paste



G-E Soldering Paste is non-corrosive and is guaranteed to solder all metals except aluminum.



Size of Container	Price per Pound	Size of Container	Price per Pound
2-ounce	*\$.15	10-pound	\$.50
8 "	1.00	25 "	.45
1-pound	.90		

*Price per can.

Allen Soldering Sticks

Non-acid, non-poisonous, non-corrosive and without fumes.



Price.....each \$.30

Yager's Soldering Salts



Put up in blue and white enameled cans. For all general soldering except aluminum.

Price, 1/2-pound Cans.....each	\$.30
" 1 " " " " " "	.40
" 5 " " " " " "	1.85

Nokorode Soldering Paste



Non-corrosive. Will solder all metals except aluminum. As safe as resin and as rapid as acid.

Size Can	Price per Lb.	Size Can	Price per Lb.
2-ounce each	\$.30	25-pound	\$.90
1-pound	1.80	50 "	.90
10 "	1.00		

Trotters Commutator Polish

This compound is an effective spark preventor and lubricator for dynamos and motor brushes, carbon, woven wire, or sheet metal.

Price, Small Sticks, 4 1/2 x 5/8 inch.....each	\$.25
" Large " 4 1/2 x 1/8 " " " " "	.50

Gales Commutator Compound



Price, 4x1-inch Stick.....each \$.50

No. 374 G-E Pure Gum Faced Insulating Tape



Consists of a layer of 98 per cent pure Para rubber on a backing of unvulcanized high-grade rubber compound containing only fine Para. This tape can be used to advantage in the making of joints where extremely high insulation resistance is desired, such as on underground rubber insulated cables where the joint is to be waterproof. It affords a satisfactory substitute for cut-sheet rubber. Joints made with Gum Faced Tape may be vulcanized if desired.

Width Inches	Approx. Diam. of Roll Inches	Approx. Yards per Roll	Approx. Weight per Roll Ounces	Price per Pound
3/4	4	6	6	\$.90
1	4	6	8	.90
1 1/2	4	6	12	.90
2	4	9	16	.90

P. A. Exemplar Friction Tape



Made from heavy cloth fabric of best quality and is saturated with a preservative and adhesive compound.

Color	Width Inches	Feet per Roll	Wt., Lbs. per Roll	Price per Lb.
Black	3/4	90	1 1/2	\$.80
White	3/4	90	1 1/2	.80
Black	3/4	45	1 1/4	.80
White	3/4	45	1 1/4	.80

O. K. Friction Tape

O. K. Tape is made from a good quality of cloth fabric treated with a special adhesive compound. It is designed to meet the demands for a good tape at a low price.

Color	Width Inches	Price per Lb.
Black	3/4	\$.70



O. K. Splicing Compound



A rubber gum tape containing a large portion of pure rubber. It makes a perfect insulating compound which will not deteriorate.

Width Inches	Wt., Lbs. per Roll	Price per Lb.
3/4	1 1/2	\$.80

G-E Friction Tape



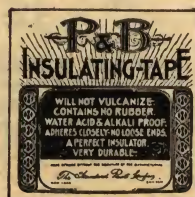
G-E friction tape is a high grade cotton fabric, consisting of a rubber compound. It does not unravel when unwinding from original core and will show no deterioration when stored for a year under proper warehouse conditions.

Width Inches	Diam. of Roll, In.	Net Wt. per Roll, Oz.	Length, per Roll, Yds.	Price per Roll
3/4	4 1/4	8	21 1/4	\$.50

P & B Waterproof Tape

A tape especially adapted for line work. Will not vulcanize with heat or become defective by exposure or use, will not dry and crack or harden; water, acid and alkali-proof.

Color	Width Inches	Lbs. per Roll	Price per Lb.
Black	3/4	1 1/2	\$.75





Okonite Tape



Okonite Tape is of unquestionable superiority, and the demand has steadily increased as the crucial test of time demonstrates its permanent value. It has proven all we claim for it, being thoroughly waterproof and a perfect insulating medium. It is not injured by exposure to weather, and does not deteriorate when submitted to extreme changes in temperature, and is not affected by

commercial acids or alkalis, qualities possessed by no other tape in the market. We make it in any width desired, but keep in stock $\frac{3}{4}$ inch widths only. Put up in packages of $\frac{1}{2}$ pound, "Full Weight," with our trademark plainly stamped upon each.

Beware of imitations. None genuine unless put up as above described. Made in black only.

$\frac{1}{2}$, 1, $1\frac{1}{2}$, 2 and 3-inch widths can be shipped direct from the factory.

Price, No. 5726, $\frac{3}{4}$ -inch Wide per pound \$2.00

Okonite Cement

A pure liquid rubber cement, for use in making joints.

Price, No. 5724, Packed in 2-oz. Cans. per can \$.50

Manson Tape

The foundation for our Manson Tape is a heavy cloth fabric, having a peculiar weave and made solely for our use. This cloth is first thoroughly saturated with an insulating and preservative compound, and afterwards served with an adhesive dressing, the latter resisting the several climatic changes, as well as preventing corrosion, oxidation or unwrapping. Manson Tape is made in black and white.



We claim that it is the best cloth tape in the market.

That it will not oxidize the wire.

That it has no superior.

That the price is as low as many inferior tapes now being offered in the market.

It is a first-class article in every respect. Put up in tin boxes, $\frac{3}{4}$ -inch widths, $\frac{1}{2}$ -pound packages, "Full Weight."

Price, No. 5727, Manson Friction Tape, White, $\frac{3}{4}$ -inch Width. per lb. \$1.20

Price, No. 5728, Manson Friction Tape, Black, $\frac{3}{4}$ -inch Width. per lb. 1.20

Special widths furnished to order direct from factory.



No. 363 G-E Splicing Gum Tape

All-rubber compound containing no cloth, and made from fine Para rubber.

Width In.	Approx. Diam. of Roll In.	Approx. Yds. per Roll	Approx. Wt. per Roll Oz.	Price per Lb.
$1\frac{3}{4}$	4	9	8	\$.85
1	$4\frac{1}{4}$	13	16	.85
$1\frac{1}{2}$	$3\frac{3}{4}$	9	16	.85
1	$3\frac{1}{2}$	7	16	.85

No. 631 G-E Paragon Tape

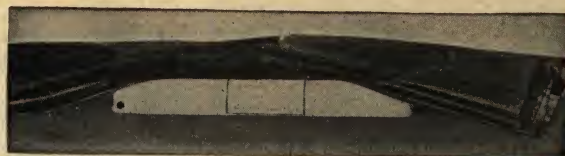
Specially adapted to exterior work and is largely used in the manufacture of made up street car cables and for similar purposes.



Width Inches	Approx. Diam. of Roll Inches	Approx. Yards per Roll	Approx. Weight per Roll Ounces	Price per Pound
$\frac{3}{4}$	$4\frac{1}{4}$	22	6	\$.65

G-E Insulating Material

Treated Cloths



The insulating sheet materials listed as treated cloths, papers and fibers, and insulating tapes are of the identical quality used in the manufacture of General Electric Company apparatus. The untreated materials are purchased to specification and are carefully inspected for uniformity. The treated materials are produced by applying to the untreated forms, insulating varnishes, japans and oils developed by the research laboratory of this company to provide a serviceable finished product of superior quality.

Standard insulations only are listed in these pages but materials for special requirements are available and complete information will be furnished on request. The insulation engineering department of the General Electric Company will gladly assist in the selection of insulation materials.

In the manufacture of G-E treated cloths, a fabric closely woven from long fiber, prime cotton of high tensile strength and uniform thickness is selected. This cloth is finished without the use of starch or other fillers, which tend to produce unsatisfactory dielectric and aging properties, and is rendered smooth by the removal of the nap through singeing. The insulating varnish is then applied and oaked on in a sufficient number of coats to produce the desired thickness.

The insulation value of treated cloths depends greatly on the quality of the varnish and its proper application. G-E varnishes are extremely flexible and age well under all operating conditions. The use of specially designed machinery makes it possible to obtain complete saturation of the cloth, and a varnish coating of exceptional uniformity.

Yellow varnished cloths are very flexible, have high dielectric strength, are oilproof, moisture and age resistant. The film imparted by yellow varnish is much harder than that obtained by using black varnish, and consequently resists abrasion to better advantage.

Black varnished cloths possess extreme flexibility, and are more permanent than yellow cloths when subjected to high temperatures. Their oily surface renders them particularly moisture repellant. Because of their superior insulating qualities, they are preferred for all work where a hard surface film and absolute resistance to attack when immersed in mineral oils are not prime essentials.

Treated cloths are supplied in 36-inch widths, in 25, 50 and 100-yard rolls.

Cat. No.	Description	Thick- ness In.	Width of Roll In.	Price per Yard
509	Yellow Varnished Silk	0.005	36	*
514	" " Cloth	0.007	36	\$.505
510	" " "	0.010	36	.54
510	" " "	0.012	36	.62
516	" " Drill	0.020	30	.85
517	" " Duck	0.025	36	1.05
515	" " "	0.040	36	1.70
508	Black " Silk	0.005	36	*
506	" " Cloth	0.007	36	.495
505	" " "	0.010	36	.53
505	" " "	0.012	36	.60
513	" " Drill	0.020	30	.85
504	" " Duck	0.025	36	1.05
519	" " "	0.040	34	1.70

*Prices on application.



G-E Insulating Material

Fibers and Papers



All fibers and papers are especially selected for their high insulating properties, uniform thickness and high tensile strength.

All treatments render the fibers and papers more flexible and increase their dielectric strength and ability to with-

stand oil, water and high temperature.

Horn Fiber

Thickness Inches	Width Rolls Inches	Size of Sheets Inches	Wt., Lbs. per Sq. Ft.	PRICE, PER POUND		
				*No. 525 Untreated	No. 566 Varnished	No. 527 Oiled
0.007	24	.....	0.035	\$.65	\$.80	\$.80
0.010	24	.....	0.047	.65	.80	.80
0.015	24	.....	0.070	.65	.80	.80
0.020	24	.....	0.094	.65	.80	.80
0.025	24	.....	0.117	.65	.80	.80
0.030	24	.....	0.141	.65	.80	.80
0.060	..	30x40	0.281	.65	.80	.80
0.125	..	30x40	0.563	.65	.80	.80

*No. 525 can also be supplied in rolls 46 inches wide.

Supplied in rolls, 25, 50 and 100 yards in length.

Rawhide Fiber—Fish Paper

Thickness Inches	Size Sheet Inches	Wt., Lbs. Sq. Ft.	PRICE, PER POUND		
			†No. 530 Untreated	No. 568 Varnished	No. 532 Oiled
0.005	32x46	0.031	\$.65	\$.80	\$.80
0.010	32x46	0.063	.65	.80	.80
0.015	32x46	0.094	.65	.80	.80
0.020	32x46	0.125	.65	.80	.80

†No. 530 can also be supplied in rolls 46 inches wide.

Press Board

Thickness Inches	Size Sheet Inches	Wt., Lbs. Sq. Ft.	PRICE, PER POUND		
			No. 520 Untreated	No. 567 Varnished	No. 522 Oiled
0.009	30x40	0.078	\$.30	\$.50	\$.50
0.020	33x64	0.160	.30	.50	.50
0.030	34x40	0.230	.30	.50	.50
0.060	34x40	0.470	.30	.50	.50
0.094	24x60	0.700	.30	.50	.50
0.125	40x60	0.930	.30	.50	.50

Express Paper

Thickness Inches	Width Rolls Inches	Wt., Lbs. Sq. Ft.	PRICE, PER POUND	
			No. 540 Untreated	No. 542 Varnished
0.003	32	0.017	\$.20	\$.60
0.005	32	0.027	.20	.60
0.009	32	0.040	.20	.60

Supplied in rolls 50, 100 and 200 yards in length.

Cable Paper

Thickness Inches	Width Rolls Inches	Wt., Lbs. Sq. Ft.	PRICE, PER POUND	
			No. 545 Untreated	No. 546 Varnished
0.003	36	0.011	\$.45	\$.65
0.005	36	0.019	.45	.65
0.008	36	0.029	.45	.65

Supplied in rolls 50, 100 and 200 yards in length.

Red Rope Paper

Thickness Inches	Width Rolls Inches	Wt., Lbs. per Sq. Ft.	PRICE, PER POUND	
			No. 555 Untreated	No. 556 Oiled
0.005	32	0.031	\$.35	\$.45
0.009	32	0.062	.35	.45

Supplied in 50, 100 and 200-yard rolls.

Asbestos Paper

Thickness Inches	Rolls Inches	Wt., Lbs. Sq. Ft.	PRICE, PER POUND		
			No. 590 Untreated	No. 593 Varnished	No. 592 Oiled
0.006	36	0.025	\$.60	\$1.40	\$1.05
0.010	36	0.042	.42	.90	.65
0.015	36	0.070	.42	.90	.65

Supplied in 25, 50 and 100-yard rolls.

G-E Insulating Material

Insulating Tape



No. 506 Black Varnished Cloth Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Straight Cut		*Bias Cut	
			Approx. Wt., Oz. per Roll	Price per Roll	Approx. Wt., Oz. per Roll	Price per Roll
0.007	1/2	36	3 1/4	\$.29	3 1/2	\$.30
0.007	3/4	36	4 3/4	.44	5 1/4	.45
0.007	1	36	6 3/4	.58	7	.59
0.007	1 1/2	36	10 1/2	.90	11	.91
0.007	2	36	13 3/4	1.17	15	1.18

No. 505 Black Varnished Cloth Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Straight Cut		*Bias Cut	
			Approx. Wt., Oz. per Roll	Price per Roll	Approx. Wt., Oz. per Roll	Price per Roll
0.010	1/2	36	4 1/4	\$.31	4 3/4	\$.32
0.010	3/4	36	6 1/2	.46	6 3/4	.47
0.010	1	36	9 1/4	.60	9 1/2	.61
0.010	1 1/2	36	13 1/4	.92	13 1/2	.93
0.010	2	36	18	1.19	19 1/2	1.20
0.012	1/2	36	5	.33	5 1/4	.34
0.012	3/4	36	7 3/4	.50	8 1/2	.51
0.012	1	36	10 3/4	.64	11	.65
0.012	1 1/2	36	16	.96	16 1/2	.97
0.012	2	36	20 3/4	1.25	22	1.26

No. 514 Yellow Varnished Cloth Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Straight Cut		*Bias Cut	
			Approx. Wt., Oz. per Roll	Price per Roll	Approx. Wt., Oz. per Roll	Price per Roll
0.007	1/2	36	3 1/4	\$.30	3 1/2	\$.31
0.007	3/4	36	4 3/4	.45	5 1/4	.46
0.007	1	36	6 3/4	.59	7	.60
0.007	1 1/2	36	10 1/2	.91	11	.92
0.007	2	36	13 3/4	1.18	15	1.19

No. 510 Yellow Varnished Cloth Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Straight Cut		*Bias Cut	
			Approx. Wt., Oz. per Roll	Price per Roll	Approx. Wt., Oz. per Roll	Price per Roll
0.010	1/2	36	4 1/4	\$.32	4 3/4	\$.33
0.010	3/4	36	6 1/2	.47	6 3/4	.48
0.010	1	36	9 1/4	.61	9 1/2	.62
0.010	1 1/2	36	13 1/4	.93	13 1/2	.94
0.010	2	36	18	1.20	19 1/2	1.21
0.012	1/2	36	5	.34	5 1/4	.35
0.012	3/4	36	7 3/4	.52	8 1/2	.52
0.012	1	36	10 3/4	.65	11	.66
0.012	1 1/2	36	16	.97	16 1/2	.98
0.012	2	36	20 3/4	1.26	22	1.27

*Bias cut types are furnished in short lengths of about 5 feet per length, totalling 36 yards per roll.

No. 650 White Cotton Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Approx.		Price per Roll
			Wt., Oz. per Roll	Lgth., Yds. per Roll	
0.007	3/4	72	4 1/2	72	\$.95
0.007	1	72	7	72	1.15
0.007	1 1/2	72	10	72	1.75

No. 651 White Cotton Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Approx.		Price per Roll
			Wt., Oz. per Roll	Lgth., Yds. per Roll	
0.005	3/8	36	1	36	\$.45
0.005	1/2	36	1 1/2	36	.50
0.007	3/4	72	3 1/2	72	1.10

No. 655 White Cotton Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Approx.		Price per Roll
			Wt., Oz. per Roll	Lgth., Yds. per Roll	
0.005	3/4	72	6	72	\$1.15
0.005	1	72	7	72	1.35

No. 660 Stay Binding

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Approx.		Price per Roll
			Wt., Oz. per Roll	Lgth., Yds. per Roll	
0.015	1	36	4 1/2	36	\$.80
0.015	1 1/2	36	6 1/2	36	1.40

No. 663 Non-elastic Webbing

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Approx.		Price per Roll
			Wt., Oz. per Roll	Lgth., Yds. per Roll	
0.025	1/2	36	5	36	\$.90
0.025	1	36	8	36	1.50
0.025	1 1/2	36	14	36	1.85
0.025	2	36	39	72	6.20

No. 664 Asbestos Tape

Thick- ness Inches	Width Inches	Lgth., Yds. per Roll	Approx.		Price per Roll
			Wt., Oz. per Roll	Lgth., Yds. per Roll	
0.015	3/4	30	5	30	\$6.35
0.015	1	30	7	30	5.95
0.020	1	50	17	50	5.20
0.020	1 1/4	35	15	35	5.00
0.030	1 1/4	30	20	30	4.25



G-E Insulating Material

Cords and Twines



Threads, cords and twines are used in insulation processes as space fillers in armature cores, protective braiding on wires and cables, temporary binding in the winding of coils, insulation for the front end of commutators, etc. For all insulating requirements, the various twines and cords, which are naturally of an open, porous nature and would readily absorb moisture, should be sealed or filled with some suitable moisture-proofing compound of high dielectric properties.

The following lists include the twines and cords commonly used, the number and price given cover the untreated material. Where treated cord or twine are desired, the number should be followed by the notation, treated.

Price of treated cord upon application.

Cord				Twine			
No.	Approx. Diam. Inches	Standard Size Spool Pounds	Price per Pound	No.	Approx. Diam. Inches	Standard Size Spool Pounds	Price per Pound
680	0.030	1	\$3.20	684	0.035	1	\$1.50
681	0.040	1	3.45	685	0.055	1/2	1.30
682	0.085	1	4.00	687	0.065	1/2	1.30
...	...	...	...	688	0.080	1/2	1.30
...	...	...	...	698	0.105	1	1.30

Flexible Varnished Tubing



This tubing is of high quality and extremely flexible and durable. It has high mechanical and dielectric strength and is oilproof, heat-resistant and moisture repellant.

It is recommended for insulating bare wires or for increasing the dielectric strength of insulated wire used in connection with radio equipment, magnetos, telegraph instruments, relay coil leads, crossover wires, apparatus leads, etc. The smaller sizes are generally known as "Radio Spaghetti," being extensively used on the fine wiring of radio equipments.

Inside Diam. Inches	Covers B.&S. Bare Wire	Price per 1000 Feet	Inside Diam. Inches	Covers B.&S. Bare Wire	Price per 100 Feet
1/32	40-21	\$38.00	5/32	8 and 7	\$71.00
1/16	20-15	42.00	3/16	6 " 5	88.00
3/32	14-11	42.00	7/32	4	92.00
1/8	10 and 9	71.00	1/4	3	97.00

Colors: Red, green, black and yellow. Specify color desired. Furnished in 24 inch lengths only.

No. 632 Prepared Paper Tape

This consists of pure manila paper which has been dried in a vacuum and impregnated with special cable compound. It is packed in pails and tin boxes which are sealed so that there is no danger of the tape absorbing moisture in any climate. When the tape is wanted for use the container itself can be heated with a blow lamp, which immediately melts the compound in which the paper is packed and at the same time warms the tape.

Width Inches	Thickness Inches	Diameter Roll Inches	Yards per Roll	Rolls per Container	Approx. Net Wt., Lbs. per Container	Price per Pound
1/2	0.005	1 1/4	6	252	4.85	\$1.15
3/4	0.005	1 1/4	6	168	4.85	1.10
1 1/2	0.005	1 1/2	9	168	5.21	1.00
3/4	0.005	1 1/2	9	112	5.21	.95
3/4	0.008	5	60	1	0.55	.95
1	0.008	5	60	1	0.73	.90

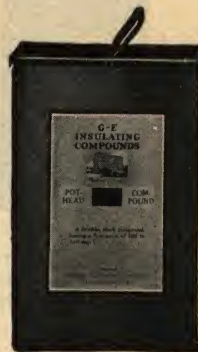
The 1-inch to 2 1/2-inch inclusive, rolls of paper tape are packed in 1-gallon pails and sealed in mineral compound.

The 5 inch rolls of paper tape are packed in tin boxes and sealed in paraffin.

The price of the boxes and pails is included in the above prices..

G-E Insulating Material

Sealing and Filling Compounds



Pothead Compound

Solid, fusible compounds find an extensive use in various insulating operations. Of first importance is the treatment of coils to produce a solidified mass from which moisture and air are excluded. By the use of asphaltic compounds, coils treated by the vacuum process are rendered permanently moisture proof; while by the use of specially designed compounds, coils may be protected from the penetration both of moisture and mineral oils. Compound treated coils are of rigid type and do not possess any considerable degree of flexibility when finished.

The compound used in this work, however, should preferably be sufficiently tough to withstand rough handling. Other desirable properties of these compounds are uniform flowpoint maintained under continued heat, a high degree of fluidity and high penetration at the treating temperature.

A second class of solid compounds is required for filling cavities to exclude moisture, dust and dirt. There are two general divisions of this group, one including those solid compounds which are melted, poured in place and solidified by cooling. Large quantities of these compounds are required for filling the spaces between porcelain tubes, bases and caps in lightning arresters, to produce a rigid apparatus and to exclude moisture. The other division includes those plastic or putty like compounds which are used in the manufacture of armature and field coils, to fill in spaces between the wires, excluding air and producing a rigid, moisture proof construction.

In heating compounds, care should be taken to avoid overheating.

Where the mass of porcelain or metal to be filled with compound is relatively large, porcelain or metal should be handled at a temperature as near that of the flowpoint of compound as is convenient, to avoid chilling of compound at surface of contact, a result which tends to develop cracks in the compound and causes it to adhere poorly. In no case should compound be poured on a surface which is colder than 21 degrees C. (70 degrees F.)



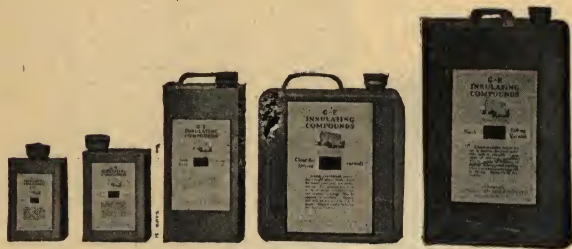
Joint Compound

Cat. No	Description	Flow Point in Deg. Cent.	Approx. Wt., Lbs. per Gallon	PRICE, PER POUND				
				50 Gal. Bbl.	10 Gal. Tub	5 Gal.	2 Gal.	1 Gal.
8	Coil Filler Compound	250	16.00	\$.37	\$.39	\$.41	...	\$.44
12-G	Arc-chute Cement	...	15.00	.14	.16	.18	...	.21
224	Pothead Compound	110	7.00	.17	.19	.21	...	.24
225	Treating "	100	8.00	.18	.20	.22	...	.25
226	Filling "	95	8.00	.20	.22	.24	...	.27
227	Joint "	65	8.00	.15	...	.19	\$.21	.22
229	Filling "	120	8.00	.27	...	.31	.33	.34
231	Sealing "	115	13.75	.38	.40	.42	...	.45
234	" "	100	8.00	.14	.16	.18	...	.21
236	" "	135	16.75	.09	.11	.13	...	.16
424	Filling "	150	8.00	.19	.21	.23	...	.26
831	" "	...	11.75	...	...	.26	.28	.29
837	" "	100	14.00	.10	.12	.14	...	.17



G-E Insulating Materials

Insulating Varnishes, Joints, Oils, Stickers,
Shellacs, Paints and Sealing Compounds



In the selection of materials for insulation, due consideration should be given to those properties that will best satisfy the electrical, physical and chemical requirements of the form of apparatus, or of the service to be met.

For electrical properties, the relative importance of dielectric strength, insulation resistance, resistance to breakdown under high frequency or oscillatory discharge and resistance to temperature changes should be decided. Determination of physical requirements necessitates decision as to the relative importance of tensile, of compressive strength, rigidity or flexibility and high or low heat conductivity. The necessary chemical properties should also be carefully considered. It is important to determine whether the material should maintain its original form, or change, as hardening by oxidation or softening by heat.

Insulating Varnishes

Insulating varnishes are used for brushing on coils which have been wound with untreated fibrous materials, such as cotton yarns or tapes. Coils so wound are also dipped in vats of the varnish and the surplus is drained or brushed off. For this work varnishes do not require so high a degree of flexibility, nor so good aging qualities at high temperatures as do those used in the manufacture of varnished cloth, but the varnish film is usually tougher and glossier.

Varnishes are of two general classes known usually as black varnishes and yellow, or clear varnishes. The black varnishes are produced by compounding drying oils and asphaltic materials and in this way, a varnish of maximum insulation value, flexibility and moisture resistance is secured. Such a varnish, however, has a softer film than the yellow or clear varnishes which are made from drying oils which by oxidation produce hard films resistant to abrasion but of appreciably lower values in other properties. The only requirement necessitating yellow or clear varnish is that of hardness of surface so as to resist wear and abrasion to a greater degree than the softer black varnish films.

Varnishes are also known according to the methods of drying, as air-drying and baking varnishes. The air-drying varnishes are not ordinarily so flexible or durable as the baking varnishes because of the larger percentage of drying ingredients contained in them.

Cat. No.	Color	Class	Specific Gravity	Drying Time Hours	Thinners to be Used	Wt., Lbs. per Gal.
150	Black	Baking	0.875	6	V. M. & P. Naphtha	7.313
152	Clear	Air-drying	0.850	4	No. 811	7.063
450	"	Baking	0.890	8	V. M. & P. Naphtha	7.438
458	Black	Air-drying	0.855	3	V. M. & P. "	7.125
460	"	Baking	0.845	7	V. M. & P. "	7.063

Special Thinner

811	0.715	5.955
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Price, per Gallon

Cat. No.	55-gal. Drums	5 Gal.	2 Gal.	1 Gal.	1 Qt.	1 Pint
150	\$1.60	\$1.95	\$2.05	\$2.25	\$2.75	\$3.40
152	1.90	2.25	2.35	2.55	3.05	3.70
450	2.00	2.35	2.45	2.65	3.15	3.80
458	1.15	1.50	1.60	1.80	2.30	2.95
460	1.70	2.05	2.15	2.35	2.85	3.50
811	.55	.90	1.00	1.20	1.70	2.35

G-E Insulating Materials

Finishing Varnishes

G-E finishing varnishes are designed primarily to produce a fine, glossy, black finish. They are classified according to the method of drying. Air-drying finishing varnishes set to a firm surface in from one to six hours, at ordinary temperatures. Owing to the larger percentage of drying ingredients required to produce this rapid set, air drying finishing varnishes are not ordinarily so flexible or durable as baking finishing varnishes, which are usually subjected to temperatures ranging from 90 to 260 degrees Centigrade to produce the surface. The time required for drying depends upon the temperature used.

Finishing varnishes are useful where finished appearance is of prime importance, and only medium insulation value is desired. They are applied as a final coating on coils and assembled armatures, and also find considerable use in finishing metal parts and, to some extent, as an insulating coating for sheet steel punchings.

Insulating oils closely resemble, and are properly included with compounds classed as insulating varnishes. The chief distinction is that oils never contain any gum resins, are designed to be more flexible, and give better life than clear insulating varnishes when subjected to heat. They are used in the preparation of sheet insulating materials, such as oiled fibers, oiled papers, etc.

Cat. No.	Color	Class	Specific Gravity	Drying Time Hours	Thinners to be Used	Wt., Lbs. per Gallon
165	Black	Baking	0.865	7	V. M. & P.	7.325
183	"	Air-drying	0.915	1/2	Benzol	7.625
188	"	"	0.835	8	Naphtha	6.938

Price, per Gallon

Cat. No.	55-gal. Drums	5 Gal.	2 Gal.	1 Gal.	1 Qt.	1 Pint
165	\$1.60	\$1.95	\$2.05	\$2.25	\$2.75	\$3.40
183	1.55	1.90	2.00	2.20	2.70	3.35
188	1.10	1.45	1.55	1.75	2.25	2.90

Stickers and Shellacs

Stickers may be classed as auxiliary insulating material, since their chief function is not so much to produce an insulating layer as to hold other insulating substances in place.

These stickers are not expected to remain permanently sticky, the material held being supported in some other manner within a short period after the sticker is applied. An example of this kind of work is the wrapping of varnished cloth or armature coils, where subsequent wrappings or compression within the slot hold the strips or tapes in place.

Aside from the cementing in place of varnished cloth, varnished tape and mica tape, other uses for this class of compounds are pasting asbestos paper to iron or wood, felt gaskets to iron, etc.

The uses of shellac are well known and need no general description. The special purpose for which each standard shellac is designed will be found under the proper numerical designation.

Owing to the limitations of shellac as a bonding material and its relatively high cost, black bonding varnishes are being used more generally. This material is a better insulator and a more permanent sticker, but requires a somewhat higher temperature.

Stickers

Cat. No.	Specific Gravity	Wt., Lbs. per Gal.	PRICE, PER GALLON					
			55-gal. Drums	5 Gal.	2 Gal.	1 Gal.	1 Qt.	1 Pint
211	0.880	7.313	\$2.00	\$2.35	\$2.40	\$2.65	\$3.15	\$3.80
213	1.000	8.313	3.80	4.15	4.25	4.45	4.95	5.60
*462	0.930	7.750	1.75	2.10	2.20	2.40	2.90	3.55

*Varnish.

Use benzol for thinner.

Shellacs

263	0.890	7.438	*\$4.15	\$4.40	\$4.50	\$4.70	\$5.20	\$5.85
265	0.945	7.875	*7.10	7.35	7.45	7.65	8.15	8.80
266	0.975	8.125	*9.10	9.35	9.45	9.65	10.15	10.80

*These shellacs are supplied in 52-gallon wooden barrels.

Use denatured alcohol for thinner.



G-E Insulating Material Paints



In manufacturing electrical apparatus, paint is used:

(a) To afford a protective coating and to give a finished appearance to electrical machines.

(b) For filling the braiding of cables, to render them fire-proof.

(c) To afford a protective coating, on certain parts of apparatus, against the dissolving action of certain oils.

In specifying paints, care should be taken to select one suitable for the service required, as there is a necessary difference in the composition of paints for indoor and outdoor use. Most paints are suitable for indoor service, or for apparatus not exposed to weather, but for outdoor service a more careful selection of ingredients is required to enable the paint to withstand the effect of the elements.

Brushing is the usual method of applying paint; where economy of time is important, spraying and dipping are also used. The two latter methods require the paint to be of a thinner consistency than for brushing. Spraying has the advantage of producing a very uniform coat.

The table below gives, in condensed form, the standard number of the paint, its color, approximate weight per gallon, service for which it is intended, time required for it to dry in air, and the proper thinners to be used.

Cat. No.	Color	Class	Time for Drying in Air, Hours	Approx. Wt., Lbs. per Gal.	PRICE, PER GAL. 50-gal. Bbls.	1-gal. Pails
162	Black	Oilproof	3	13	\$1.20	\$1.70
251	"	Cable Finish	2	12	3.25	3.70
284	Light Blue	Heatproof and Oilproof	2	11	*	4.50
285	Steel Blue	Finishing	5	12	5.85	6.35
286	Steel Blue	"	2	12	*	5.15
287	Bright Red	"	5	9.5	*	4.70
466	Matt Black	"	1/2	7.5	5.20	5.70
475	Red	Priming	8	24	*	9.00
478	Gray	"	24	9	*	4.00
480	Slate	Cable Finish	12	13	3.15	3.60
481	White	Cable Finish	12	13	3.70	4.20
482	French Gray	Finishing	24	16.5	*	7.00
489	Black	"	24	8	6.00	6.60

*Put up in 1-gallon pails only.

For thinning No. 466 use methyl acetone; for No. 475 use turpentine; for No. 286, use No. 811 thinner or 55° naptha; for all other Nos. use 55° naptha or turpentine.

Ruberoid P & B Rapid Asphalt Paint



Dries quickly to a hard, glossy coating, exceedingly tough and durable and with high insulating properties.

Adapted for cables, switch boards, battery boxes, shelving, conduit joints and all insulating requirements. Made in medium brushing consistency.

Size Package	Price per Gallon	Size Package	Price per Gallon
50-gallon	\$1.20	1/4-gallon	\$2.00
5 "	1.40	1/8 "	2.25
1 "	1.60		

P & B Black Air-drying Varnish

A quick drying, acid resisting and moisture proof, insulating varnish, indispensable in the repair shop and in general construction work.

For quick repairs to dynamos and motors. For dipping magnet coils, armature and field coils; for feed wires, cables, switchboards and all overhead and underground connections.

Size Package	Price per Gallon	Size Package	Price per Gallon
50-gallon	\$1.05	1-gallon	\$1.45
5 "	1.25	1/4 "	1.90

G-E No. 114 Compound Sheet Insulating Material

G-E No. 114 compound is a non-absorbent, heat resistant, acid and alkali resistant material of high mechanical strength.

It is particularly adapted to insulation in high frequency apparatus, as radio apparatus, because of its high dielectric strength and low power losses, and because of its pleasing appearance.

This compound is unexcelled as a material for radio panels. Its color is dark brown, almost black.

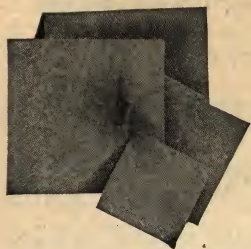
Size of Sheet Inches	Approx. Wt., Lbs. per Sheet	Price per Sheet	Size of Sheet Inches	Approx. Wt., Lbs. per Sheet	Price per Sheet
23x35x1/16	2.414	\$4.90	23x35x1	38.640	\$66.00
23x35x1/8	3.624	6.50	23x35x1 1/4	48.300	83.00
23x35x1/4	4.830	8.20	6x 7x 1/8	0.2520	.57
23x35x3/8	7.245	12.50	7x 9x 1/8	0.3780	.78
23x35x1/2	9.660	16.50	7x12x 1/8	0.5040	1.10
23x35x3/4	12.113	20.60	7x14x 3/16	0.8820	2.00
23x35x1	14.900	24.70	7x18x 3/16	1.134	2.50
23x35x1 1/8	17.905	28.80	7x21x 3/16	1.323	2.90
23x35x1 1/4	19.320	32.50	7x24x 3/16	1.512	3.40
23x35x1 1/2	24.150	40.50	7x26x 3/16	1.638	3.70
23x35x1 3/4	28.980	48.50	12x18x 3/16	1.944	4.10
23x35x2	33.810	57.00			

Crescent Chatterton Compound

This is an insulating material used chiefly in submarine cable construction to fill the interspaces between the strands of the cable conductors.



No. 1 Domestic,per lb. \$2.00



India and Domestic Cut Electrical Mica

Recommended for general electrical manufacture and repair work; also for commutators.

Sizes not listed will be charged at the price of the next larger size.

All larger sizes will be furnished at special prices.

Size In.	PRICE, PER LB.		Size In.	PRICE, PER LB.	
	India	Domestic and Black Std.		India	Domestic and Black Std.
1 x 2	\$3.00	\$2.75	2 1/2 x 5	\$14.50	\$10.00
1 x 3	4.00	3.25	2 1/2 x 6	17.50	13.00
1 x 4	5.50	3.50	2 1/2 x 7	22.00	18.50
1 x 4 1/2	7.50	4.50	2 1/2 x 8	26.00	20.00
1 x 5	10.00	6.50	2 1/2 x 10	36.00	30.00
1 x 6	14.00	9.50	3 x 3	12.50	9.00
1 x 7	18.00	13.50	3 x 3 1/2	13.50	9.25
1 x 8	22.00	18.50	3 x 4	15.50	10.50
1 1/4 x 4	7.00	4.00	3 x 4 1/2	16.00	12.00
1 1/4 x 5	13.50	9.25	3 x 5	16.50	12.25
1 1/4 x 6	15.50	11.00	3 x 5 1/2	17.00	12.75
1 1/4 x 7	18.50	14.50	3 x 6	18.00	13.50
1 1/4 x 8	24.00	19.50	3 x 6 1/2	20.00	15.50
1 1/2 x 2	4.00	3.25	3 x 7	23.00	19.00
1 1/2 x 3	6.00	3.75	3 x 8	28.00	21.50
1 1/2 x 4	7.50	4.50	3 x 9	34.00	28.00
1 1/2 x 4 1/2	10.00	6.50	3 x 10	38.00	32.00
1 1/2 x 5	14.00	9.50	3 1/2 x 3 1/2	15.50	11.00
1 1/2 x 6	16.00	12.00	3 1/2 x 4	16.50	12.25
1 1/2 x 7	19.00	15.00	3 1/2 x 4 1/2	17.00	12.75
1 1/2 x 8	23.00	19.00	3 1/2 x 5	18.00	13.50
1 1/2 x 9	27.00	21.00	3 1/2 x 5 1/2	19.00	15.00
1 1/2 x 10	32.00	26.00	3 1/2 x 6	20.00	15.50
1 1/2 x 12	38.00	32.00	3 1/2 x 6 1/2	22.00	18.50
1 3/4 x 5	15.00	10.50	3 1/2 x 7	26.00	20.00
1 3/4 x 6	17.00	12.75	3 1/2 x 8	31.00	24.50
2 x 2	7.00	4.00	4 x 4	19.00	15.00
2 x 3	8.00	5.50	4 x 4 1/2	20.00	15.50
2 x 3 1/2	9.50	6.00	4 x 5	22.00	18.50
2 x 4	10.50	6.75	4 x 5 1/2	24.00	19.50
2 x 4 1/2	11.50	8.00	4 x 6	26.00	20.00
2 x 5	14.00	9.50	4 x 6 1/2	27.00	21.00
2 x 5 1/2	15.00	10.50	4 x 7	28.50	21.75
2 x 6	17.00	12.75	4 x 8	33.00	27.00
2 x 6 1/2	18.00	13.50	4 x 9	37.00	30.50
2 x 7	19.00	15.00	4 x 10	41.00	33.00
2 x 8	24.00	19.50	4 1/2 x 4 1/2	21.00	16.00
2 x 9	30.00	24.00	4 1/2 x 5	23.00	19.00
2 x 10	36.00	30.00	4 1/2 x 5 1/2	25.00	19.75
2 x 12	45.00	34.50	4 1/2 x 6	27.00	21.00
2 1/4 x 4	11.50	8.00	5 x 5	25.00	19.75
2 1/4 x 5	14.50	10.00	5 x 6	30.00	24.00
2 1/4 x 6	17.00	12.75	5 x 7	35.00	29.00
2 1/4 x 8	26.00	20.00	5 x 8	38.00	32.00
2 1/2 x 3	9.50	6.00	5 x 9	43.00	34.00
2 1/2 x 3 1/2	10.50	6.75	5 x 10	46.00	35.50
2 1/2 x 4	11.50	8.00	6 x 6	37.50	31.50
2 1/2 x 4 1/2	12.50	9.00	6 x 7	40.00	32.50

Uncut Sheet Mica

Uncut mica is carefully selected as to quality and sizes it will cut. The different grades will cut assorted sizes as shown in table. All grades are closely trimmed.

Grade No.	India					Price per Pound
	Will Cut Assorted Sizes					
A1	4	to 6	Inches Wide, 7	to 9	Inches Long	\$9.00
1	3	" 5	" " 5	" 7	" "	7.00
2	1½	" 3½	" " 4½	" 6	" "	5.50
3	1½	" 3	" " 3	" 4½	" "	4.25
4	1½	" 2½	" " 2½	" 3	" "	3.25
5	1	" 2	" " 2	" 2½	" "	1.90
Amber						
A1	4	to 6	Inches Wide, 7	to 9	Inches Long	\$5.00
1	3	" 5	" " 5	" 7	" "	3.25
2	1½	" 3½	" " 4½	" 6	" "	2.50
3	1½	" 3	" " 3	" 4	" "	1.80
4	1½	" 2½	" " 2½	" 3	" "	1.25
5	1	" 2	" " 2	" 2½	" "	.65

Carbon Brushes

On account of limited amount of space in our Catalogue and also because of the thousands of brushes of various sizes, it is impossible to give here our complete price list. If, however, a blue print drawing or sample brush be sent to us, prompt delivery can be made on any brush, no matter what size, shape or material, and a sketch, blue print or sample will always be necessary, where brushes with shunts or special work such as bevels, holes, shoulders, etc., are required.

We can furnish special hard graphite brushes designed for service on fan motors, small domestic motors, and other places where only a small amount of care and attention can be given them. These small brushes are suitable for any size motors or generators, and they can be supplied promptly and in large quantities.

Graphite and metal graphite brushes for automobile lighting generators and starting motors of any type can be furnished.

How to Order

When ordering carbon brushes, give exact dimensions desired, specifying length first, width second, and thickness third. Where brushes with shunts or special work, such as bevels, holes, shoulders, etc., are required, a sketch or sample will be necessary. Wherever possible give the information requested below, as we shall then be better prepared to furnish the grade of brush best adapted to your requirements, for when we know the local operating conditions we can generally improve the brush service.

The correct grade can be furnished with the following information concerning your machine: Direct or alternating current; manufacturer and type; capacity in amperes; speed; diameter of commutator or collector rings; is commutator slotted, i.e., mica undercut; total number of brushes. Send worn sample, if possible.

No. 50 Pyramid Carbon Brush Assortments

For Fractional Horse Power Motors



A new and practical assortment of brushes to cover replacements on electric fans, vacuum cleaners, washing machines, drills and other appliances using fractional H. P. motors.

Contains 204 brushes of seventeen different types and sizes and 75 springs of two different sizes.

The container has separate compartments for each type of brush and spring.

This assortment is the result of an exhaustive study of small motor brush requirements. Brushes of the same high quality as are supplied to manufacturers of fractional horse power motors are contained in this assortment which is comprehensive enough to take care of brush replacements on the most widely distributed types of fractional horse power motors in use.

Price, No. 50, Complete.....each \$12.00



Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled



G-E Single-phase Distribution Transformers are built on the distributed core, which has been found best adapted both electrically and mechanically to this type of transformer.

Various coil constructions have been developed to meet the particular requirements of designs depending upon unit size and voltage rating. In the larger sizes, circular coils of either disk or cylindrical form are used on account of their greatly superior mechanical qualities, and the facilities they give for rigid mechanical support.

The windings of G-E Distribution Transformers are carefully dried under vacuum, and filled under pressure with an insulating compound. This process not only removes all moisture from the insulation and seals the windings against the entrance of moisture, but also makes the winding a solid mass, thus giving it greater mechanical strength and heat conductivity. In the core-wound transformers this treatment is applied to the complete unit, consisting of core and coils. In the form-wound transformers the complete winding is treated as a unit before assembly on the core.

For Operation on 2200-2300-2400-volt Circuits

APPLICATION.—Recommended for use on 4000-volt Y circuits, between line and neutral for single-phase operation, or in banks of three connected Y on the high voltage and delta on the low voltage. With this latter connection the line neutral, if available, should not be connected to the transformer bank. By connections of the low voltage leads outside the tank, transformers are arranged for series, multiple or three-wire service, with the exception of sizes 150 and 200 kv-a. which are suitable for series and three-wire service only.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts, Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive. When cutouts are desired for sizes 75 to 200 kv-a., inclusive, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 kv-a. inclusive.

Transformer weights include suspension hooks up to 100 kv-a. inclusive.

Name Plate Voltage Rating		Kv-a. Cont. Rating 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
High	Low			
2200 to 110/220				
2300 " 115/230				
2400 " 120/240	2200 to 122/244			
Cat. No.	Cat. No.			
79047	79041	1.5	2	190
79050	79044	3	3	245
165651	165751	5	5 1/4	375
165652	165752	7.5	8 1/4	490
165653	165753	10	13 1/2	480
165654	165754	15	18 1/2	635
165656	165756	25	26 1/2	875
198389	198392	37.5	43	1260
165659	165759	50	56	1580
165660	165760	75	53	1830
165661	165761	100	48	2050
172735	172741	150	160	4080
172736	172742	200	200	4660

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 440-460-480 and 550-575-600-volt Circuits

APPLICATION.—By connection of the low voltage leads outside the tank, transformers are arranged for series, multiple or three-wire service.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 10 kv-a., inclusive, in the 440-volt class and with sizes up to 15 kv-a., inclusive, in the 550-volt class. When cutouts are desired for sizes 15 and 25 kv-a., in the 440-volt class or for sizes 25 and 37.5 kv-a., in the 550-volt class, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating		Kv-a. Cont. Rating 55° C Rise	Oil Req'd Gal.	Approx. Shipping Wt., Incl. Oil, Lbs.
High	Low			
440 to 110/220	550 to 110/220			
460 " 115/230	575 " 115/230			
480 " 120/240	600 " 120/240			
Cat. No.	Cat. No.			
43394	76745	1.5	2	190
43397	76748	3	2 1/4	225
43399	76750	5	4 3/4	335
43400	76751	7.5	9	465
43401	76752	10	14	455
43402	76753	15	18 1/2	635
43404	76755	25	26 1/2	875
198400	198396	37.5	43	1260
43407	76758	50	56	1580
78958	78960	75	53	1830
78959	78961	100	48	2050

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 2200-2300-2400-volt Circuits

APPLICATION.—Recommended for use on 4000-volt Y circuits, between line and neutral for single-phase operation, or in banks of three connected Y on the high voltage and delta on the low voltage. With this latter connection the line neutral, if available, should not be connected to the transformer bank.

By connection of the low voltage leads outside the tank, transformers are arranged for series and multiple service.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive. When cutouts are desired for sizes 75 to 200 kv-a., inclusive, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating		Kv-a. Cont. Rating 55° C Rise	Oil Req'd Gal.	Approx. Shipping Wt., Incl. Oil, Lbs.
High	Low			
2200 to 220/440				
2300 " 230/460				
2400 " 240/480	High 2200 to Low 244/488			
Cat. No.	Cat. No.			
224951	79178	1.5	2	190
197128	79181	3	3	245
197129	180182	5	5 1/4	375
197130	180183	7.5	8 1/4	490
197131	180184	10	13 1/2	480
197132	180185	15	18 1/2	635
197134	180187	25	26 1/2	875
198408	198393	37.5	43	1260
197137	180190	50	56	1580
197138	180191	75	53	1830
197139	180192	100	48	2050
197141	148136	150	160	4080
197142	148137	200	200	4660

**Type H G-E Distribution Transformers**

Single-phase, 60 Cycles, Oil-cooled
For Operation on 2300-volt Circuits

APPLICATION.—Recommended for use on 4000-volt Y circuits, between line and neutral for single-phase operation, or in banks of three connected Y on the high-voltage and delta on the low-voltage. With this latter connection the line neutral, if available, should not be connected to the transformer bank. By connection of the low-voltage leads outside the tank, transformers having low-voltage rating of 115/230 are arranged for series, multiple or three-wire service, with the exception of sizes 150 and 200 kv-a. which are suitable for series and three-wire service only. Transformers having low-voltage rating of 230/360 are suitable for series and multiple service only.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive.

When cutouts are desired for sizes 75 to 200 kv-a., inclusive, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating				
High Voltage 2300/2185/2070 to Low Voltage 115/230		High Voltage 2300/2185/2070 to Low Voltage 230/360		
Low Voltage		Kv-a. Cont.		
115/230	230/460	Rating	Oil	Approx.
Cat.	Cat.	55° C	Req'd	Shipping
No.	No.	Rise	Gals.	Wt. Incl.
				Oil, Lbs.
224948	224949	1.5	3	215
200407	222153	3	5	295
200408	222154	5	5 1/4	375
200409	222155	7.5	8 1/4	490
200410	222156	10	13 1/2	480
200411	222157	15	18 1/2	635
200413	222158	25	26 1/2	875
198407	222159	37.5	43	1260
200416	222160	50	56	1580
200417	222161	75	53	1830
200418	222162	100	48	2050
200420	222163	150	160	4080
200421	222164	200	200	4660

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 1100, 1150, 1200-volt Circuits

APPLICATION.—Recommended for use on 4000-volt Y circuits, between line and neutral for single-phase operation, or in banks of three connected Y on the high-voltage and delta on the low-voltage. With this latter connection the line neutral, if available, should not be connected to the transformer bank. By connection of the low-voltage leads outside the tank, transformers are arranged for series, multiple or three-wire service.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 25 kv-a., inclusive. When cutouts are desired for sizes 37 1/2 to 75 kv-a., inclusive, two Cat. No. 260773 should be ordered separately, and two Cat. No. 230001 for 100 kv-a.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating				
High Voltage 1100/2200 to Low Voltage 110/220		High Voltage 1150/2300 to Low Voltage 115/230		
High Voltage 1200/2400 to Low Voltage 120/240		Kv-a. Cont.		
		Rating	Oil	Approx.
		55° C	Req'd	Shipping
		Rise	Gals.	Wt. Incl.
				Oil, Lbs.
Cat.				
No.				
224950	1.5	3	215	
195657	3	5	295	
195658	5	5 1/4	375	
24008	7.5	8 1/4	490	
24009	10	13 1/2	480	
24010	15	18 1/2	635	
24012	25	26 1/2	875	
198388	37.5	43	1260	
24015	50	56	1580	
78970	75	53	1830	
78971	100	48	2050	

Type A G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 1100 or 2200-volt Circuits

Type A transformers are standard for nominal 1100-volt service and are also suitable for nominal 2200-volt service.

APPLICATION.—The high voltage windings of sizes 1 to 50 kv-a., inclusive, may be connected for either 1150 or 2300 volts. The high voltage windings of sizes 75 and 100 kv-a. may be connected for 2300 volts only. By connections of the low voltage leads outside the tanks, transformers are arranged for series, multiple or three-wire service.

SERVICE.—Suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive. When cutouts are desired for sizes 75 and 100 kv-a., for 2300-volt operation, or for sizes 37.5 and 50 kv-a., for 1150-volt operation, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a., inclusive.

Transformer weights include suspension hooks up to 50 kv-a., inclusive.

Name Plate Voltage Rating				
High Voltage, 1150/2300 to Low Voltage, 115-230		Kv-a. Cont.		
		Rating	Oil	Approx.
		55° C	Req'd	Shipping
		Rise	Gals.	Wt., Incl.
				Oil, Lbs.
Cat.				
No.				
234359	1.5	3 3/4	225	
192570	3	5 1/4	300	
192571	5	3 1/2	345	
192572	7.5	6 1/2	460	
192573	10	11 1/2	435	
192574	15	14	560	
192575	25	22	660	
192576	37.5	39	1080	
192577	50	40	1240	
192578	75	53	1780	
192579	100	60	2520	

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 2200-2300-2400-volt Circuits

APPLICATION.—Recommended for use on 4000-volt Y circuits between line and neutral for single-phase operation, or in banks of three connected Y on the high-voltage and delta on the low-voltage. With this latter connection the line neutral, if available, should not be connected to the transformer bank.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive. When cutouts are desired for sizes 75 to 200 kv-a. inclusive, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating				
High Voltage, 2200 to Low Voltage, 550		High Voltage, 2300 to Low Voltage, 575		
High Voltage, 2400 to Low Voltage, 600		Kv-a. Cont.		
		Rating	Oil	Approx.
		55° C	Req'd	Shipping
		Rise	Gals.	Wt., Incl.
				Oil, Lbs.
Cat.				
No.				
224947	1.5	2	190	
207369	3	3	245	
207370	5	5 1/4	375	
207371	7.5	8 1/4	490	
207372	10	13 1/2	480	
207373	15	18 1/2	635	
207374	25	26 1/2	875	
207375	37.5	43	1260	
207376	50	56	1580	
207377	75	53	1830	
207378	100	48	2050	
207380	150	160	4080	
207381	200	200	4660	



Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 3300-volt Circuits

APPLICATION.—By connection of the low-voltage leads outside the tank, transformers are arranged for series, multiple, or three-wire service, with the exception of 150 and 200 kv-a. which are suitable for series and three-wire service only.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive.

When cutouts are desired for sizes 75 to 200 kv-a., inclusive, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating

High Voltage 3300 to Low Voltage 122/244

Cat. No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
79162	1.5	2	190
79165	3	3	245
79167	5	5 1/4	375
79168	7.5	8 1/4	490
79169	10	13 1/2	480
79170	15	18 1/2	635
79172	25	26 1/2	875
198404	37.5	43	1260
79175	50	56	1580
78972	75	53	1830
78973	100	48	2050
172732	150	160	4080
172733	200	200	4066

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 4000-volt Circuits

These transformers are to provide service where it is more economical or desirable to connect transformers across phases than between line and neutral on 2300-4000 volt Y circuits. The use of these transformers gives the same service voltages as 10:1 ratio transformers connected between line and neutral.

APPLICATION.—By connection of the low-voltage leads outside the tank, transformers are arranged for series, multiple or three-wire service, with the exception of 150 and 200 kv-a. which are suitable for series and three-wire service only.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers. When cutouts are desired two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Suspension hooks are supplied with all sizes up to 100 kv-a., inclusive.

Transformer weights include suspension hooks up to 100 kv-a., inclusive.

Name Plate Voltage Rating

High Voltage 4000 to Low Voltage 115/220

No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
246241	1.5	2 3/4	215
246242	3	4 3/4	315
246243	5	5 1/4	375
246244	7.5	8 1/4	510
246245	10	13 1/2	480
246246	15	18 1/2	635
246247	25	26 1/2	900
246248	37.5	43	1260
246249	50	56	1610
246250	75	53	1820
246251	100	48	2050
246252	150	160	4080
246253	200	200	4660

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 2200-4400, 2300-4600
and 2400-4800-volt Circuits

APPLICATION.—By connection of the low voltage leads outside the tank, transformers are arranged for series, multiple or three-wire service, with the exception of sizes 150 and 200 Kv-a., which are suitable for series and three-wire service only.

SERVICE.—Suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers. When cutouts are desired, two of Cat. No. listed below should be ordered separately.

Transformer High Voltage Rating	Kv-a. Sizes Incl.	Cutouts Recommended Cat. No.	Transformer High Voltage Rating	Kv-a. Sizes Incl.	Cutouts Recommended Cat. No.
4400 to 4800 Up to	75	208989	2200 to 2400 Up to	50	104227
4400 " 4800 100 "	200	260773	2200 " 2400 75 "	200	260773

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 Kv-a., inclusive.

Transformer weights include suspension hooks up to 100 Kv-a., inclusive.

Name Plate Voltage Rating

High Voltage 2200/4400 to Low Voltage 115/230

Cat. No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
224953	1.5	2 3/4	215
195645	3	5 1/2	355
195646	5	5 1/4	365
79927	7.5	8 1/4	515
79928	10	13 1/2	480
79929	15	18 1/2	635
79931	25	31	955
198391	37.5	45	1280
79934	50	59	1720
79935	75	53	1820
79936	100	48	2050
172729	150	160	4080
172730	200	200	4660

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 2200-4400, 2300-4600
and 2400-4800-volt Circuits

APPLICATION.—By connection of the low-voltage leads outside the tank, transformers having low-voltage rating of 115-230 are arranged for series, multiple or three-wire service, with the exception of 150 and 200 Kv-a. which are suitable for series and three-wire service only. Transformers having low-voltage rating of 230-460 are suitable for series and multiple service only. All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers. When cutouts are desired, two of Cat. No. listed below should be ordered separately.

Transformer High Voltage Rating	Kv-a. Sizes Incl.	Cutouts Recommended Cat. No.	Transformer High Voltage Rating	Kv-a. Sizes Incl.	Cutouts Recommended Cat. No.
4400 to 4800 Up to	75	208989	2200 to 2400 Up to	50	104227
4400 " 4800 100 "	200	260773	2200 " 2400 75 "	200	260773

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 100 Kv-a., inclusive. Transformer weights include suspension hooks, up to 100 Kv-a., inclusive.

Name Plate Voltage Rating

High Voltage 2200/4400 to Low Voltage 220/440
High Voltage 2300/4600 to Low Voltage 230/460
High Voltage 2400/4800 to Low Voltage 240/480

Cat. No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
224954	1.5	2 3/4	215
224434	3	4 3/4	315
224435	5	5 1/4	375
224436	7.5	8 1/4	510
224437	10	13 1/2	480
224438	15	18 1/2	635
224439	25	26 1/2	900
224440	37.5	43	1260
224441	50	56	1600
224442	75	53	1820
224443	100	48	2050
224444	150	160	4080
224445	200	200	4660



Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operating on 6600-volt Circuits

APPLICATION.—For operation on 6600-volt circuits and for supplying service voltages 600 and below.

Transformers of these name plate ratings are also designed for operation as follows:

High Voltage Rating		Low Voltage Rating		
		Line No. 1	Line No. 2	Line No. 3
6600/11430Y/ 6200/6000/5700	To	110/220	220/440	550
7200/12470Y/ 6875/6545/6220	"	120/240	240/480	600

By connection of the low voltage leads outside the tank, transformers having low voltage rating of 115-230 are arranged for series, multiple or three-wire service, with the exception of sizes 150 and 200, which are suitable for series and three-wire service only. Transformers having low voltage rating of 230-460 are suitable for series and multiple service only. Suitable for indoor or outdoor installation.

SUSPENSION HOOKS.—Provided with, and included in transformer weights of all sizes up to 50 kv-a., inclusive.

Name Plate Voltage Rating	
Line No. 1, High Voltage, 6900/11950Y/6585/6275/5960	To Low Voltage, 115/230
Line No. 2, High Voltage, 6900/11950Y/6585/6275/5960	To Low Voltage, 230/460
Line No. 3, High Voltage, 6900/11950Y/6585/6275/5960	To Low Voltage, 575

Line No. 1	Line No. 2	Line No. 3	Kv-a. Cont. Rating 55° C. Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
199346	199374	204392	1.5	5	295
199347	199375	204393	3	5	335
199348	199376	204394	5	8	440
199349	199377	204395	7.5	12	460
199350	199378	204396	10	12	510
199351	199379	204397	15	17	645
199352	199380	204398	25	29	1010
199353	199381	204399	37.5	37	1320
199354	199382	204400	50	55	2180
199355	199383	204401	75	57	2500
199356	199384	204402	100	86	2930
199358	199386	204404	150	138	3940
199359	199387	204405	200	175	4660

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 6600-volt Circuits

APPLICATION.—For operation on 6600-volt circuits and for supplying 2300 or 4000-volt distribution and motors.

Transformers having voltage rating of 6600/11430Y to 2300 are, when operated in bank, suitable for transforming from 6600 to 2300; from 6600 to 4000Y or from 11430Y to 2300. They should not be used connected in Y on both high- and low-voltage sides simultaneously to transform from 11430Y to 4000Y as this connection may result in the presence of excessive stresses in the windings due to harmonic voltages.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not included with these transformers.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a. inclusive.

Transformer weights include suspension hooks up to 50 kv-a., inclusive.

Name Plate Voltage Rating
High Voltage 6600/11430Y/6270/5940
To Low Voltage 2300 Delta

Cat. No.	Kv-a. Cont. Rating 55° C. Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
204406	1.5	6	325
204407	3	8	420
204408	5	11½	430
204409	7.5	10	460
204410	10	17	625
204411	15	26	715
204412	25	19½	895
204413	37.5	38½	1240
204414	50	55	2170
204415	75	57	2500
204416	100	71	2680
204418	150	138	3880
204419	200	177	4570

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 11000-volt Circuits

APPLICATION.—For 11900-volt circuits and for supplying service voltages 600 and below. Transformers of these name plate ratings are also designed for operation as follows:

High Voltage Rating		Low Voltage Rating		
		Line No. 1	Line No. 2	Line No. 3
11000/10450/9900	to	110/220	220/440	550

By connection of the low-voltage leads outside the tank, transformers having low-voltage rating of 115/230 are arranged for series, multiple or three-wire service with the exception of sizes 150 and 200, which are suitable for series and three-wire service only. Transformers having low voltage rating of 230/460 are suitable for series and multiple service only.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Provided with and included in weights of all sizes up to 50 kv-a. inclusive.

Name Plate Voltage Rating	
Line No. 1 High Voltage, 11500/10925/10350	To Low Voltage 115/230
Line No. 2 High Voltage, 11500/10925/10350	To Low Voltage, 230/460
Line No. 3 High Voltage, 11500/10925/10350	To Low Voltage, 575

Line No. 1	Line No. 2	Line No. 3	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
204420	204432	204444	2.5	5	320
204421	204433	204445	5	12½	460
204422	204434	204446	10	18	650
204423	204435	204447	15	25½	795
204424	204436	204448	25	29	1105
204425	204437	204449	37.5	38	1330
204426	204438	204450	50	56	2130
204427	204439	204451	75	72	2710
204428	204440	204452	100	83	3030
204430	204442	204454	150	138	3880
204431	204443	204455	200	200	4830

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 11000-volt Circuits

APPLICATION.—For operation on 11000-volt circuits and for supplying 2300 or 4000 volt distribution and motors.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a. inclusive.

Transformer weights include suspension hooks up to 50 kv-a. inclusive.

Name Plate Voltage Rating
High Voltage, 11000/10450/9900
To Low Voltage 2300/4000Y

Cat. No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Lbs. Incl. Oil
204456	2.5	9½	435
204457	5	11½	440
204458	10	17½	635
204459	15	29½	835
204460	25	29	1000
204461	37.5	38½	1250
204462	50	56	2130
204463	75	57	2500
204464	100	68	2610
204466	150	139	3890
204467	200	177	4580



Type H G-E Distribution Transformers

Single-phase 60 Cycles, Oil-cooled
For Operation on 13200-volt Circuits

APPLICATION.—For 13200-volt circuits and for supplying service voltages 600 and below. Transformers of these name plate ratings are also designed for operation as follows:

High Voltage Rating		Low Voltage Rating	
13200/12540/11880	Line No. 1 110/220	Line No. 2 220/440	Line No. 3 550
By connection of the low-voltage leads outside the tank, transformers having low-voltage rating of 115-230 are arranged for series, multiple or three-wire service, with the exception of 150 and 250 kv-a., which are suitable for series and three-wire service only. Transformers having low-voltage rating of 230/460 are suitable for series and multiple service only.			

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Provided with and included in weights of all sizes up to 50 kv-a., inclusive.

Name Plate Voltage Rating			
Line No. 1	Line No. 2	Line No. 3	Kv-a. Cont. 55° C Rise
Cat. No.	Cat. No.	Cat. No.	
204468	204480	204492	2.5
204469	204481	204493	5
204470	204482	204494	10
204471	204483	204495	15
204472	204484	204496	25
204473	204485	204497	37.5
204474	204486	204498	50
204475	204487	204499	75
204476	204488	204500	100
204478	204490	204502	150
204479	204491	204503	200
			Oil Req'd Gals.
			Approx. Shipping Wt. Incl. Oil, Lbs.
			9
			12 1/2
			27
			32
			42
			55
			56
			57
			83
			138
			200
			440
			480
			775
			870
			1150
			1480
			2120
			2500
			3010
			3950
			4830

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 13200-volt Circuits

APPLICATION.—For operation on 13200-volt circuits and for supplying 2300 or 4000-volt distribution and motors.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a., inclusive.

Transformer weights include suspension hooks up to 50 kv-a., inclusive.

Name Plate Voltage Rating

High Voltage 13200/12540 11880
To Low Voltage 2300/4000Y

Cat. No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
204504	2.5	11 1/2	375
204505	5	10	460
204506	10	27	740
204507	15	25	1140
204508	25	42 1/2	1440
204509	37.5	55	2130
204510	50	56	2130
204511	75	73	2640
204512	100	68	2810
204514	150	140	3900
204515	200	176	4570

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 22000-volt Circuits

APPLICATION.—For operation on 22000-volt circuits and for supplying service voltages 600 and below. Transformers of these name plate ratings are also designed for operation as follows:

High Voltage Rating		Low Voltage Rating	
22000/20900/19800	Line No. 1 110/220	Line No. 2 220/440	Line No. 3 550
By connection of the low-voltage leads outside the tank, transformers having low-voltage rating of 115/230 are arranged for series, multiple or three-wire service with the exception of 150 and 200 kv-a., which are suitable for series and three-wire service only. Transformers having low-voltage rating of 230/460 are suitable for series and multiple service only.			

SERVICE.—All sizes are suitable for outdoor and indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are not provided with these transformers.

Name Plate Voltage Rating			
Line No. 1	Line No. 2	Line No. 3	Kv-a. Cont. 55° C Rise
Cat. No.	Cat. No.	Cat. No.	
204561	204572	204583	5
204562	204573	204584	10
204563	204574	204585	15
204564	204575	204586	25
204565	204576	204587	37.5
204566	204577	204588	50
204567	204578	204589	75
204568	204579	204590	100
204570	204581	204592	150
204571	204582	204593	200
			Oil Req'd Gals.
			Approx. Shipping Wt. Incl. Oil, Lbs.
			38
			49
			48
			61
			59
			92
			88
			100
			201
			237
			1360
			1580
			1630
			2110
			2150
			2870
			2990
			3220
			4890
			5610

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 22000-volt Circuits

APPLICATION.—For operation on 22000-volt circuits and for supplying 2300 or 4000-volt distribution and motors.

SERVICE.—All sizes are suitable for outdoor and indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are not provided with these transformers.

Name Plate Voltage Rating

High Voltage, 22000/20900/19800
to Low Voltage, 2300/4000Y

Cat. No.	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
204594	5	38	1360
204595	10	49	1580
204596	15	48	1630
204597	25	61	2110
204598	37.5	59	2210
204599	50	92	2870
204600	75	88	2990
204601	100	100	3270
204603	150	178	4680
204604	200	218	5660



Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 33000-volt Circuits

APPLICATION.—For operation on 33000-volt circuits and for supplying service voltages 600 and below. Transformers of these name plate ratings are also designed for operation as follows:

High Voltage Rating	Low Voltage Rating		
	Line No. 1	Line No. 2	Line No. 3
33000/31360/29700	to 110/220	220/440	550

By connection of the low-voltage leads outside tank, transformers having low-voltage rating of 115/230 are arranged for series, multiple or three-wire service with the exception of sizes 150 and 200 which are suitable for series and three-wire service only. Transformers having low-voltage rating of 230/460 are suitable for series and multiple service only.

SERVICE.—All sizes are suitable for outdoor and indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are not provided with these transformers.

Name Plate Voltage Rating			
Line No. 1, High Voltage,	34500/32775/31050		
to Low Voltage,	115/230		
Line No. 2, High Voltage,	34500/32775/31050		
to Low Voltage,	230/460		
Line No. 3, High Voltage,	34500/32775/31050		
to Low Voltage,	575		

Line No. 1	Line No. 2	Line No. 3	Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
Cat. No.	Cat. No.	Cat. No.			
204605	204615	204625	10	49	1700
204606	204616	204626	15	48	1750
204607	204617	204627	25	60	2160
204608	204618	204628	37.5	58	2270
204609	204619	204629	50	106	3110
204610	204620	204630	75	102	3220
204611	204621	204631	100	99	3310
204613	204623	204633	150	201	5010
204614	204624	204634	200	237	5660

Type H G-E Distribution Transformers

Single-phase, 60 Cycles, Oil-cooled
For Operation on 33000-volt Circuits

APPLICATION.—For operation on 33000-volt circuits and for supplying 2300-4000-volt distribution and motors.

SERVICE.—All sizes are suitable for outdoor and indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are not provided with these transformers.

Name Plate Voltage Rating
High Voltage 33000/31350/29700
to Low Voltage 2300/4000Y

Cat. No.	Kv-a. Cont. 55° C Rise	Gals. Oil Req'd	Approx. Shipping Wt. Incl. Oil, Lbs.
204635	10	48	1690
204636	15	48	1750
204637	25	60	2160
204638	37.5	58	2210
204639	50	106	3110
204640	75	102	3220
204641	100	99	3310
204643	150	177	4800
204644	200	214	5560

Type H G-E Distribution Transformers

Single-phase, 25 Cycles Oil-cooled, 2300-volt Circuits

APPLICATION.—By connections of the low voltage leads outside the tank, transformers having low voltage rating of 115/230 are arranged for series, multiple or three-wire service, with the exception of sizes 150 and 200, which are suitable for series and three-wire service only. Transformers having low voltage rating of 230/460 are suitable for series and multiple service only.

SERVICE.—Suitable for indoor or outdoor installation.

FUSIBLE PRIMARY CUTOUTS.—Two cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive. When cutouts are desired for sizes 75 to 200 kv-a., inclusive, two Cat. No. 260773 should be ordered separately.

SUSPENSION HOOKS.—Provided with and included in weights for all sizes up to 37.5 kv-a., inclusive.

Name Plate Voltage Rating		Kv-a. Cont. Rating Rise 55° C.	Oil Req. Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
High	Low			
2300 to 115/230	115/230 2300			
Cat. No.	Cat. No.			
36016	.....	1.5	3	265
31405	.....	3	8½	475
31407	.....	5	10	430
31408	.....	7.5	10	480
31409	33508	10	20	720
31410	33509	15	24	845
31412	33511	25	53	1450
198386	198387	37.5	46	1620
31415	33514	50	50	1820
78944	78946	75	105	2500
78945	78947	100	112	2900

Type H G-E Distribution Transformers

Single-phase, 25 Cycles, Oil-Cooled
For Operation on 6600-volt Circuits

APPLICATION.—For operation on 6600-volt circuits and for supplying service voltages 600 and below.

Transformers of these name plate ratings are also designed for operation as follows:

HIGH VOLTAGE RATING		LOW VOLTAGE RATING		
		Line No. 1	Line No. 2	Line No.
6600/11430/Y6200/6000/5700		to 110/220	220/440	550
7200/12470/Y6875/6545/6220		120/240	240/480	600

By connection of the low voltage leads outside the tank, transformers having low voltage rating of 115/230 are arranged for series, multiple or three-wire service, with the exception of sizes 150 and 200, which are suitable for series and three-wire service only. Transformers having low voltage rating of 230/460 are suitable for series and multiple service only.

SERVICE.—Suitable for indoor or outdoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Provided with sizes up to 25 kv-a., inclusive.

Transformer weights include suspension hooks up to 25 kv-a., inclusive.

Name Plate Voltage Rating
Line No. 1, High Voltage, 6900/11950Y/6585/6275/5960
To Low Voltage, 115/230
Line No. 2, High Voltage, 6900/11950Y/6585/6275/5960
To Low Voltage, 230/460
Line No. 3, High Voltage, 6900/11950Y/6585/6275/5960
To Low Voltage, 575

Line No. 1	Line No. 2	Line No. 3	Kv-a. Cont. Rating 55° C. Rise	Oil Req. Gals.	Approx. Shipping Wt. Incl. Oil, Lbs.
Cat. No.	Cat. No.	Cat. No.			
192498	192512	192592	1.5	5	355
192499	192513	192593	3	10	450
192500	192514	192594	5	16	635
192501	192515	192595	7.5	15	705
192502	192516	192596	10	26	845
192503	192517	192597	15	23	940
192504	192518	192598	25	52	1500
192505	192519	192599	37.5	60	2440
192506	192520	192600	50	70	2930
192507	192521	192601	75	105	3550
192508	192522	192602	100	150	4350
192510	192524	192604	150	195	6050
192511	192525	192605	200	250	6950



Type H G-E Subway Transformers

Single-phase, 60 Cycles, Oil-cooled

For Operation on 2200, 2300 and 2400-volt Circuits



Transformers for subway service must meet all the conditions imposed upon them by underground installation; they must be watertight since subways are not dry and transformers are often subjected to actual contact with water. Their dimensions must be as small as consistent to adapt them to the limited space available in manholes; they must have high efficiency and low losses because they are usually connected to the line continuously. The design must provide for low temperature rise as the radiation is slow, due to the poor circulation of the air in the manhole.

APPLICATION.—By connection of the low-voltage leads at the terminal board, transformers are arranged for series, multiple or three-wire service, with the exception of 75, 100, 150 and 200 kv-a. which are suitable for series, and for three-wire service only.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

It is recommended that subway transformers be protected with D & W oil fuse cutouts as follows: Sizes up to 50 kv-a. inclusive, No. 246103 (50 amp. capacity) or No. 246104 (100 amp. capacity). For sizes 75 and 100 kv-a. No. 246104 (100 amp. capacity standard service), No. 246107 (100 amp. capacity heavy service) or No. 246105 (200 amp. capacity). For sizes 150 and 200 kv-a., No. 246105 (200 amp. capacity standard service) or No. 246108 (200 amp. capacity heavy service).

Name Plate Voltage Rating			Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
High	Low				
2200 to 110/220					
2300 " 115/230					
2400 " 120/240					
Cat. No.	Cat. No.				
79569	79560		5	13	630
79570	79561		7.5	12 1/2	660
79571	79562		10	11 1/2	700
79572	79563		15	22 1/4	1170
79574	79565		25	36	1650
198406	198405		37.5	57 1/2	2080
79577	79568		50	56	2210
78982	78980		75	62	2240
78983	78981		100	58	2470
157217	157214		150	68	2910
157218	157215		200	112	3810

Type H G-E Subway Transformers

Single-phase, 40 Cycles, Oil-cooled

For Operation on 2200 and 2300-volt Circuits

Name Plate Voltage Rating			Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
High	Low				
2300 to 115/230					
2200 to 122/244					
Cat. No.	Cat. No.				
204149	205363		5	13	630
204150	205364		7.5	12 1/2	675
204151	205365		10	12	730
204152	205366		15	20	1170
204153	205367		25	33	1640
204154	205368		37.5	58	2090
204155	205369		50	65	2390
204156	205370		75	62	2580
204157	205371		100	58	2850

Type H-T G-E Distribution Transformers

Three-phase, 60 Cycles, Oil-cooled

APPLICATION.—Terminal board is provided on the low-voltage side for either series or multiple connection.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Three cutouts Cat. No. 104227 are furnished with sizes up to 50 kv-a., inclusive, in the 2300-volt class.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a.; inclusive, for voltage ratings 13800 and below.

BRACKETS.—Brackets for supporting the high-voltage leads are regularly furnished with all sizes up to 50 kv-a., inclusive, for voltages 13800 and below.

For Operation on 2200, 2300, 2400 or 4000-volt Circuits

Name Plate Voltage Rating			Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
High Voltage		Low Voltage			
2200/3810 Y	to	220/440			
2300/4000 Y	"	230/460			
2400/4150 Y	"	240/480			
Cat. No.					
217737			5	11	535
217738			7.5	12	650
217739			10	23	925
217740			15	21	1030
217741			25	43	1690
217742			37.5	39	1840
217743			50	50	2430
217744			75	60	2830
217745			100	53	2850
217746			150	92	4080
217747			200	152	4750

For Operation on 4400, 4600, or 4800-volt Circuits

Name Plate Voltage Rating			Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
High Voltage		Low Voltage			
4400 Y	to	220/440			
4600 Y	"	230/460			
4800 Y	"	240/480			
Cat. No.					
217748			5	11	535
217749			7.5	12	650
217750			10	23	925
217751			15	21	1030
217752			25	43	1690
217753			37.5	39	1840
217754			50	50	2430
217755			75	60	2840
217756			100	53	2850
217757			150	92	4080
217758			200	152	4730

For Operation on 6600-volt Circuits

Name Plate Voltage Rating			Kv-a. Cont. 55° C Rise	Oil Req'd Gals.	Approx. Shipping Wt., Incl. Oil, Lbs.
High Voltage		Low Voltage			
6600 Y/5940 Y	to	220/440			
6900 Y/6210 Y	"	230/460			
7200 Y/6480 Y	"	240/480			
Cat. No.					
217759			10	26	965
217760			15	30	1180
217761			25	45	1720
217762			37.5	40	1820
217763			50	57	2270
217764			75	90	3250
217765			100	136	3950
217766			150	140	4850
217767			200	200	5500



Type H-T G-E Distribution Transformers

Three-phase, 60 Cycles, Oil-cooled

APPLICATION.—Terminal board is provided on the low-voltage side for either series or multiple connection.

SERVICE.—All sizes are suitable for outdoor or indoor installation.

FUSIBLE PRIMARY CUTOUTS.—Cutouts are not furnished with these transformers.

SUSPENSION HOOKS.—Suspension hooks are provided with all sizes up to 50 kv-a. inclusive, for voltage ratings 13800 and below.

BRACKETS.—Brackets for supporting the high-voltage leads are regularly furnished with all sizes up to 50 kv-a. inclusive, for voltages 13800 and below.

For Operation on 11000-volt Circuits

Name Plate Voltage Rating

Cat. No.	High Voltage		to	Low Voltage		Approx. Shipping Wt., Incl. Oil, Lbs.
	11000Y/9900Y	11500Y/10550Y		220/440	230/460	
	Kv-a. Cont. 55° C Rise			Oil Req'd Gals.		
217768	10			26		965
217769	15			30		1180
217770	25			45		1720
217771	37.5			40		1820
217772	50			57		2270
217773	75			90		3250
217774	100			136		3950
217775	150			140		4850
217776	200			200		5500

For Operation on 13200-volt Circuits

Name Plate Voltage Rating

Cat. No.	High Voltage		to	Low Voltage		Approx. Shipping Wt., Incl. Oil, Lbs.
	13200Y/11880Y	13800Y/12420Y		220/440	230/460	
	Kv-a. Cont. 55° C Rise			Oil Req'd Gals.		
217943	10			32		1190
217944	15			46		1660
217945	25			44		1750
217946	37.5			56		2050
217947	50			53		2330
217948	75			115		3550
217949	100			123		3750
217950	150			130		4830
217951	200			185		5450

For Operation on 22000-volt Circuits

Name Plate Voltage Rating

Cat. No.	High Voltage		to	Low Voltage		Approx. Shipping Wt., Incl. Oil, Lbs.
	22000Y/19800Y	23000Y/20700Y		220/440	230/460	
	Kv-a. Cont. 55° C Rise			Oil Req'd Gals.		
217777	15			...		....
217778	25			...		....
217779	37.5			...		....
217780	50			...		....
217781	75			...		....
217782	100			...		....
217783	150			...		....
217784	200			...		....

For Operation on 33000-volt Circuits

Name Plate Voltage Rating

Cat. No.	High Voltage		to	Low Voltage		Approx. Shipping Wt., Incl. Oil, Lbs.
	33000Y/29700Y	34500Y/31050Y		220/440	230/460	
	Kv-a. Cont. 55° C Rise			Oil Req'd Gals.		
217787	37.5			...		....
217788	50			...		....
217789	75			...		....
217790	100			...		....
217791	150			...		....
217792	200			...		....

G-E Distribution Transformers

Sizes 200 Kva. and Below

For Supplying Lighting and Power Service

Standard Types, Frequencies, Sizes and Voltage Ratings

Standard Types

Oil Immersed—Self-cooled, Single-phase

Standard Frequencies

25 Cycles per Second

60 Cycles per Second

Standard Sizes in Kva. Continuous Ratings at 55 Degree C. Rise for Single-phase Transformers

2.5-5-10-15-25-37.5-50-75-100-150-200

NOTE.—See following table for sizes that are standard for the various line voltages.

Standard Sizes, Voltage Ratings and Taps of Single-phase Transformers for the Various Line Voltages For Supplying Service Voltages 600 and Below

Standard Line Voltage, 11000

Standard Size in Kva. Continuous Rating, 2.5 to 200 Incl.

TRANSFORMER HIGH VOLTAGE RATING			TRANSFORMER LOW VOLTAGE RATING		
On Full Winding	APPROX. ON TAPS				
11000	10450	9900	To 110/220 or to 115/230	To 220/440 or to 230/460	to 550
*11500	10925	10350	"	"	*575

Standard Line Voltage, 13200

Standard Size in Kva. Continuous Rating, 2.5 to 200 Incl.

13200	12540	11880	To 110/220 or to 115/230	To 220/440 or to 230/460	to 550
*13800	13110	12430	"	"	*575

Standard Line Voltage, 22000

Standard Size in Kva. Continuous Rating, 5 to 200 Incl.

22000	20900	19800	To 110/220 or to 115/230	To 220/440 or to 230/460	to 550
*23000	21850	20700	"	"	*575

Standard Line Voltage, 33000

Standard Size in Kva. Continuous Rating, 10 to 200 Incl.

33000	31350	29700	To 110/220 or to 115/230	To 220/440 or to 230/460	to 550
*34500	32775	31050	"	"	*575

NOTE.—Transformers having low voltage rating of 115-230 for sizes 100 kva. and below are arranged for series, multiple or three-wire service by connections of the low voltage leads outside the transformer tank; whereas, sizes 150 and 200 kva. are suitable for series or three-wire service only. Transformers having low voltage rating of 230/460 for sizes 200 kva. and below, are suitable for series or multiple service only.

For Supplying Distribution Voltages Above 600

Standard Line Voltage, 11000

Standard Size in Kva. Continuous Rating, 2.5 to 200 Incl.

TRANSFORMER HIGH VOLTAGE RATING			TRANSFORMER LOW VOLTAGE RATING	
On Full Winding	APPROX. ON TAPS			
*11000	10450	9900	To 2300/4000Y	
*13200	12540	11880	"	*2300/4000Y

Standard Line Voltage, 22000

Standard Size in Kva. Continuous Rating 5 to 200 Incl.

*22000	20900	19800	To 2300/4000Y
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Standard Line Voltage, 33000

Standard Size in Kva. Continuous Rating, 10 to 200 Incl.

*33000	31350	29700	To 2300/4000Y
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NOTE.—Standard Single-phase Distribution Transformers for supplying nominal 2300 or 4000-volt distribution and having voltage ratings listed in above table will be designed for successful operation when excited on full winding at 5 per cent above their rated voltage.

*NOTE.—Voltage ratings will be considered the normal voltage ratings of these lines and guarantees will be made only on these normal voltage ratings. It is understood that where a transformer is suitable for operation at two voltage ratings or at three voltage ratings, this flexibility will be definitely indicated on the name plate, on the connection diagram or on a paster inside the transformer cover.

Standard transformers having low voltage ratings listed above will be designed for full rated kva. output at any specified tap voltage (not exceeding 10 per cent range) without exceeding guaranteed temperature rise.



G-E Transformer Specialties

Transformers for Special Purposes

In addition to standard Type M transformers, the General Electric Company has developed a uniform line of parts for manufacturing any miniature air-cooled transformers ranging from 15 to 5000 watts inclusive, 60 cycles, and from 5 to 3000 watts inclusive, 25 cycles, at voltages of 550 and below. No oil is used for either cooling or insulating purposes.

Type M transformers present a good appearance wherever installed. The construction may be for indoor or outdoor service as desired. By substituting this transformer for batteries or magneto generators, no maintenance or replacement charges due to wear are incurred, less space is required and cleanliness and reliability are assured.

The following are a few representative applications: Electric welding, speed variation of motors, operating of small, low-voltage motors from higher voltage circuits, railway signal lighting two to three-phase transformation.

G-E Sign Lighting Transformers

Primary—110-220 Volts; Secondary—11-22 Volts



These transformers are used in connection with the lighting of large or small advertising, municipal, civic, or other display signs. They are also used quite extensively for experimental purposes where a standard transformer is needed for producing heavy currents at low voltages.

Primary windings are arranged for series-multiple connection to operate either from 110 or 220-volt circuits. Secondary windings are similarly arranged to give full output at 11 or 22 volts and to permit of three-wire operation. Coils are enclosed in a strong, metal case which is provided with lugs for fastening to the wall, or to the back of the sign.

50 to 140 Cycles

Cat. No.	Cap. Watts	APPROX. DIMENS., IN.		APPROX. WT., LBS	
		Depth	Wall Space	Net	Shipping
G76676	250	3½	8 x 5	15	20
G76678	500	4½	9 x 5½	20	30
G146138	750	4½	10 x 5½	25	40
G76680	1000	5	11 x 6½	35	50
G146139	1500	5	12 x 6½	40	55
G76683	2000	6	12½ x 7½	60	80

25 to 49 Cycles

Cat. No.	Cap. Watts	APPROX. DIMENS., IN.		APPROX. WT., LBS	
		Depth	Wall Space	Net	Shipping
G173094	250	4½	9½ x 5½	22	32
G173095	500	5	11½ x 6½	35	50
G173096	750	5	12½ x 6½	50	65
G173097	1000	6	12½ x 7½	65	85
G173098	1500	6	16 x 7½	80	100
G200404	2000	7½	14 x 9½	105	125

G-E Type M Transformers

Specially Fitted for Conduit Wiring Installations

Primary—440 Volts
Secondary—110 Volts
50 to 140 Cycles



This design is particularly adapted to lighting oil well rigs, mine lighting, irrigation plants where conduit wiring is needed.

Cat. No.	Type	Cap. Watts	APPROX. DIMENS., IN.			APPROX. WT., LBS.	
			Depth	Wall Space	Over All Inc. Nipples	Net	Ship.
G236154	M	100	4	7½ x 5	9 x 5	13	15
G236155	M	250	4	8½ x 5	10 x 5	18	20
G236156	M	500	4½	9½ x 5½	11 x 5½	30	35

G-E Insulating Transformers

Primary—110-220 Volts; Secondary—110-220 Volts 50 to 140 Cycles



Insulating Transformers are arranged for 1:1 or 2:1 ratio and are manufactured chiefly for uses such as insulating lighting from power circuits; single wire lighting systems in mines; insulating telephone circuits (before rectification) from lighting circuits, etc., and for other transformations to which the rating is adapted. They are used as well for balancing three-wire, 110-220 volt circuits where auto transformers cannot be used. Weights include oil for the Type H sizes. Suitable for indoor or outdoor installation.

Type M, Air-cooled

Cat. No.	Kva.	APPROX. DIMENS., INCHES		APPROX. WT., LBS.	
		Depth	Wall Space	Net	Ship.
G166688	1	5	11 x 6½	35	45
G166690	2	6	12½ x 7½	60	75
G166692	3	6	14½ x 7½	80	100
G189911	5	7½	15½ x 9½	125	145

Type H, Oil-cooled

Cat. No.	Kva.	APPROX. DIMENS., INCHES		APPROX. WT., LBS.	
		Depth	Wall Space	Net	Ship.
G177157	7.5	26	18½ x 18	390	475
G179474	10	28½	18½ x 21	460	560
G179475	15	32	22½ x 22	685	825
G236300	25	42	24 x 24½	995	1205

Type M, for Conduit Wiring Installations

Cat. No.	Kva.	APPROX. DIMENS., INCHES			APPROX. WT., LBS.	
		Depth	Wall Space	Over All Inc. Nipples	Net	Ship.
G245327	1	5	10 x 6½	11½ x 6½	35	45
G245328	2	6	11 x 7½	12½ x 7½	60	75
G245329	3	6	13 x 7½	14½ x 7½	80	100
G245330	5	7½	14½ x 9½	16 x 9½	125	145

G-E Auto Transformers, Single-phase

Primary—220 Volts Secondary—110 Volts; 2-wire or 110-220 Volts, 3-wire

The auto transformer is an economical substitute for the ordinary transformer, particularly when both voltages are low and a comparatively small change in voltage is desired.

The design is for single phase, two phase or open delta transformation. It is not suitable to transform power three to three phase from 220 volts to 110 volts. Type M, air-cooled; Type H, oil-cooled.



50 to 140 Cycles—Wall Type

Cat. No.	Type	Kva.	DIMENS., INCHES		Floor Space Inches	APPROX. WT., LBS.	
			Depth	Height		Net	Ship.
G79883	M	1	4½	..	9 x 5½	20	30
G79884	M	1.5	5	..	10½ x 6½	30	40
G79885	M	2	5	..	11 x 6½	35	45
G79886	M	3	5	..	12 x 6½	40	50
G79887	M	4	6	..	12½ x 7½	50	60
G79888	M	5	6	..	13 x 7½	65	80
G189909	M	7.5	7½	..	14 x 9½	110	130
G189910	M	10	7½	..	15½ x 9½	130	155

50 to 140 Cycles—Floor Type

G79891	H	15	..	26	18½ x 18	385	465
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25 to 49 Cycles—Wall Type

Cat. No.	Type	Kva.	DIMENS., INCHES		Floor Space Inches	APPROX. WT., LBS.	
			Depth	Height		Net	Ship.
G173085	M	1	5	..	10½ x 6½	35	45
G173086	M	1.5	6	..	11½ x 7½	50	60
G173087	M	2	6	..	12½ x 7½	60	70
G173088	M	3	6	..	13½ x 7½	75	90
G200402	M	4	7½	..	14 x 9½	110	130
G200403	M	5	7½	..	15 x 9½	125	150

25 to 49 Cycles—Floor Type

Cat. No.	Type	Kva.	DIMENS., INCHES		Floor Space Inches	APPROX. WT., LBS.	
			Depth	Height		Net	Ship.
G173091	H	7.5	..	21½	18 x 17	290	350
G173092	H	10	..	26	18½ x 18	395	480
G173093	H	15	..	28½	18½ x 21	510	620



G-E Auto Transformers

For Conduit Wiring Installations

Primary—220 Volts
Secondary—110 Volts, 2-wire or 110-220 Volts
3-wire

When a comparatively small change in voltage is desired, or where both voltages are low, an auto transformer can be used as successfully as a transformer and its reduced capacity will mean a considerable saving.

The use of auto transformers for supplying lighting circuits from power circuits having potentials above 250 volts is not, however, considered good practice.

All sizes are suitable for outdoor installations.

Type M transformers are air-cooled.

50 to 140 Cycles

Cat. No.	Type	Kva.	Depth	APPROX. DIMENS., IN.			APPROX. Wt., Lbs.	Ship.
				Wall Space	Over All Inc. Nipples	Net		
G245345	M	1	4½	8 x 5½	9½ x 5½	20	30	
G245346	M	1.5	5	9½ x 6½	11 x 6½	30	40	
G245347	M	2	5	10 x 6½	11½ x 6½	35	45	
G245348	M	3	5	11 x 6½	12½ x 6½	40	50	
G245349	M	4	6	11 x 7½	12½ x 7½	50	60	
G245350	M	5	6	11½ x 7½	13 x 7½	65	80	
G245351	M	7.5	7½	13 x 9½	14½ x 9½	110	130	
G245352	M	10	7½	14 x 9½	15½ x 9½	130	155	

25 to 49 Cycles

Cat. No.	Type	Kva.	Depth	APPROX. DIMENS., IN.			APPROX. Wt., Lbs.	Ship.
				Wall Space	Over All Inc. Nipples	Net		
G245339	M	1	5	9½ x 6½	11 x 6½	35	45	
G245340	M	1.5	6	10 x 7½	11½ x 7½	50	60	
G245341	M	2	6	11 x 7½	12½ x 7½	60	70	
G245342	M	3	6	12 x 7½	13½ x 7½	75	90	
G245343	M	4	7½	13 x 9½	13½ x 9½	110	130	
G245344	M	5	7½	13½ x 9½	15 x 9½	125	150	

*Kva output at 110 volts, 2-wire or allowable unbalancing at 110-220 volts, 3-wire.

G-E Type MTQ Auto Transformers

MTQ Auto Transformers are designed to transform power efficiently and inexpensively from three to two-phase, 4-wire, or the reverse, with outputs of 1 to 25 Kva.

The principal application of the MTQ Auto Transformer is to adapt polyphase motors to existing circuits. They are not suitable, however, for 3-wire, 2-phase service, or to operate motors with interconnected phases.

Suitable for indoor or outdoor installation.

In ordering MTQ Auto Transformers specify whether the two-phase circuit is 3 or 4-wire.

Primary—220 Volts, 2-phase
Secondary—220 Volts, 2-phase, 4-wire
50-140 Cycles, 3 to 2-phase

Cat. No.	Kva.	Depth	APPROX. DIMENS., IN.			APPROX. Wt., Lbs.	Ship.
			Wall Space	Over All Inc. Nipples	Net		
G223996	1	4	13½ x 4	15	25		
G223997	3	4	16 x 5	30	40		
G223998	5	4½	16½ x 5½	45	55		
G223999	7.5	5	18 x 6½	55	70		
G224000	10	5	20 x 6½	75	90		
G224001	15	6	19½ x 7½	95	115		
G224002	20	6	21½ x 7½	115	140		
G224003	25	6	24 x 7½	135	160		

Type MTQ, for Conduit Wiring Installation

Primary—220 Volts, 3-phase
Secondary—220 Volts, 2-phase, 4-wire
TP—140 Cycles, 3 to 2-phase

Cat. No.	Kva.	Depth	APPROX. DIMENS., IN.			APPROX. Wt., Lbs.	Ship.
			Wall Space	Over All Inc. Nipples	Net		
G245331	1	4	12½ x 4	14 x 4	15	25	
G245332	3	4	15 x 5	16½ x 5	30	40	
G245333	5	4½	15½ x 5½	17 x 5½	45	55	
G245334	7.5	5	17 x 6½	18½ x 6½	55	70	
G245335	10	5	19 x 6½	20½ x 6½	75	90	
G245336	15	6	18 x 7½	19½ x 7½	95	115	
G245337	20	6	20 x 7½	21½ x 7½	115	140	
G245338	25	6	21½ x 7½	23 x 7½	135	160	

G-E Type MTQ Auto Transformers

MTQ Auto Transformers are designed to transform power efficiently and cheaply from three to two-phase, 3-wire, or the reverse, with outputs of 1 to 25 kva.

The principal application of the MTQ Auto Transformer is to adapt polyphase motors to existing circuits. They are not suitable for 4-wire, 2-phase service, or to operate motors with interconnected phases.

In ordering MTQ Auto Transformers specify whether the two-phase circuit is 3 or 4-wire, in that an auto transformer arranged for a 3-wire circuit is not applicable to a 4-wire circuit, or the reverse.

Primary—220 Volts, 3-phase
Secondary—220 Volts, 2-phase, 3-wire, 50-140 Cycles, 3 to 2-phase

Cat. No.	Kva.	Depth	APPROX. DIMENS., IN.			APPROX. Wt., Lbs.	Ship.
			Wall Space	Over All Inc. Nipples	Net		
G246751	1	4	13½ x 4	15	25	35	
G246752	3	4½	15½ x 5½	17	35	45	
G246753	5	5	19 x 6½	20	65	75	
G246754	7.5	5	20½ x 6½	22	80	95	
G246755	10	6	19 x 7½	21	95	115	
G246756	15	6	22 x 7½	24	130	150	
G246757	20	6	25 x 7½	27	160	180	
G246758	25	7½	22½ x 9½	29	185	210	

Type MTQ, for Conduit Wiring Installations

Primary—220 Volts, 3-phase
Secondary—220 Volts, 2-phase, 3-wire, 50-140 Cycles, 3 to 2-wire

Cat. No.	Kva.	Depth	APPROX. DIMENS., IN.			APPROX. Wt., Lbs.	Ship.
			Wall Space	Over All Inc. Nipples	Net		
G246759	1	4	12 x 5	13½ x 5	25	35	
G246760	3	4½	14½ x 5½	16 x 5½	35	45	
G246761	5	5	17½ x 6½	19 x 6½	65	75	
G246762	7.5	5	19 x 6½	20½ x 6½	80	95	
G246763	10	6	17½ x 7½	19 x 7½	95	115	
G246764	15	6	20½ x 7½	22 x 7½	130	150	
G246765	20	6	23½ x 7½	25 x 7½	160	180	
G246766	25	7½	21 x 9½	22½ x 9½	185	210	

G-E All-Nite-Lite



The All-Nite-Lite has been introduced to satisfy the demand for an electric illuminant to operate all night at a sufficiently low cost to be well within the means of all who use electricity.

It operates on any alternating current supply circuit within the voltage and frequency limits specified. Installation is made by simply screwing the All-Nite-Lite into a standard lamp socket.

The complete All-Nite-Lite consists of a miniature transformer contained within an attractive brass shell, and a miniature Mazda lamp. The transformer is constructed with the primary and secondary coils liberally insulated and with a core built of the highest grade of transformer steel.

One of the principal applications for the All-Nite-Lite is illumination of the porch and house number. The porch of the average householder is usually in darkness and the house in obscurity. The All-Nite-Lite may be operated all night for less than \$1.50 a year or kept in the circuit continuously for \$3.00 a year.

If wired so that it cannot be turned off the householder is always assured of illumination on his porch without the necessity of turning switches.

Cat. No.	Primary Volts	Secondary Volts	Frequency	APPROX. Wt.	
				Net	Ship.
190896	100-125	6	50/140	7 oz.	*30 lbs.

*Shipping weight, standard package of 50.



G-E Tungar Battery Chargers



A Typical Tungar Service Station

The Tungar Battery Charger is a rectifier for changing alternating to direct current. A complete line of Tungars is manufactured for charging starting and lighting batteries in the private garage, public garage, and battery service station. The 2 and 5-ampere sizes are now being used extensively for charging radio batteries in the home. With the addition of an inexpensive compact device, the B battery attachment, it is possible to use these sizes for charging both the A and B radio batteries. Tungars are also being used for charging batteries for electric clocks, bells, telephones, telegraph instruments, railway signals, fire alarms, fire trucks, inspection lamps, small motors and also for direct operation of motors, magnets and in fact for almost any service where a small amount of direct current is needed.



The Heart of the Tungar

The Tungar has been approved by the National Board of Fire Underwriters.

The essential parts of the Tungar are bulb, transformer, reactance, and the enclosing case with equipment. The Tungar bulb is really what makes the apparatus work.

It is a sort of electrical check valve that permits current to flow in but one direction. In appearance it resembles an incandescent lamp and contains a low voltage filament, a graphite anode, and an inert gas-argon. It is a combination of the heated filament and the gas that makes the valve action and allows current to flow only from the anode to the cathode. Thus current can flow through the battery in but one direction and the battery current cannot flow back through the rectifier.

The transformer and reactance are used for adjusting the current and voltage to the values required.

There are many sizes or capacities of Tungars and each size is made for almost any alternating current voltage or frequency that is possible to find in the country.

G-E Tungar Battery Chargers



Two-ampere, Showing Connections

The two-ampere Tungar is small in capacity, but is being used by many car owners with most efficient results.

It will charge a 3-cell battery at about 2 amperes, or 6 cells at one ampere, a low rate for a large battery, but it will charge it just as well and maybe better than a larger Tungar.

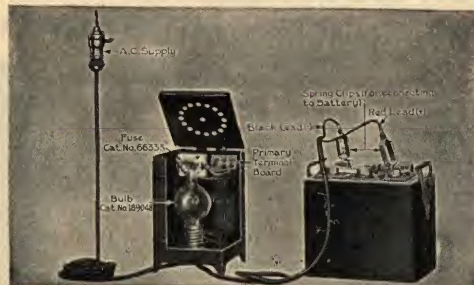
It would surely do no harm to a large battery, even if left on for a week.



Exterior View

Further, this Tungar will put some life into a battery in an over night charge, and will give enough of a charge

to turn over the starter a good many times after a 12-hour charge.



Casing Cut Away, Showing Connections

The five-ampere Tungar has a capacity for charging one 3-cell battery at a 5-ampere rate or a 6-cell at 3 amperes.

These are more suitable rates than 6 amperes only, for either a 3 or 6-cell battery for the average car owner.

A 12-volt Dodge or a Maxwell car battery, for example, should not be charged continuously

at much over three amperes. This Tungar, therefore, is the one recommended for almost any car owner. It is the ideal battery charger for a private garage, as it can be connected to the battery in a car, connected to a convenient lamp socket, the current turned on and then left practically to take care of itself.



Exterior View

G-E Tungar Battery Chargers



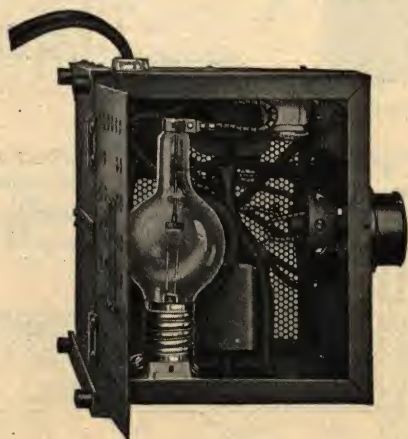
Portable, Home Garage Type

The two and the five-ampere, one-battery Tungsars are satisfactory for charging radio batteries. Thousands are being sold for this purpose. When the B battery attachment is added it is possible to charge either the radio A or B storage batteries.



Four-battery Size, Exterior View

The four-battery Tungar will charge from one to four 3-cell batteries at five amperes or less. It can be used by car dealers forming new batteries, or by the small public garage which does charging as an incidental part of its business.



Four-battery Size, Top View

The four-battery Tungar has a large field of usefulness and is a neat, compact and inexpensive little battery charger of 150 watts capacity.

The six-ampere, 75-volt Tungar will charge from one to ten 3-cell batteries at six amperes or less. It is most useful for the battery service station, the public garage, or for any place where a number of batteries are to be charged at once. There are hundreds of installations of more than one; in many cases as high as ten; and in some cases 35 of these large Tungars are in one place.

This arrangement affords many advantages over the old way.

G-E Tungar Battery Chargers



Ten-battery Size

The 12-ampere Tun-
gar will charge from one
to ten 3-cell batteries at
12 amperes; or one to
twenty 3-cell batteries at
6 amperes.

By wiring part of the batteries in series and part in multiple, ten can be charged at a 6-ampere rate and five at a 12-ampere rate at the same time. Useful in large battery stations for charging at a higher rate than 6 amperes. When operating at 6 amperes it will do the work of two 10-battery Tungsars.

Any of the sizes can be furnished for operation on either 115 or 230 volts alternating current and on 60, 40-50, 25-30, or 125-133 cycles. A part of the list of standard Tungars is given below

For small lighting and motorcycle batteries the 1-battery 2-ampere Tungar; for the car owner the 1-battery, 5-ampere Tungar; for car dealers and garages, the 4-battery Tungar; for the service station, the 6-ampere, 75-volt, or double, 12-ampere, 75-volt.

The 2 and the 5-ampere, 1-battery Tungars are satisfactory for charging radio batteries. The addition of simple attachments makes it possible to charge either the radio A or B storage batt-



Twelve-ampere Size

A-C Voltage: Normal, 115 Volts, Limits 105-125
Complete Portable Tungars

Cat. No.	Amperes	Cycles	Volts	Ship. Wt.	Lbs.	Price, Ea.
219865	5/3	60	7 5/15	24		\$28.00
221167	5/3	40-50	7 5/15	30		34.00
221168	5/3	25-30	7 5/15	35		38.00
221169	5/3	125-133	7 5/15	30		34.00
195529	2	60	7 5/15	12		18.00
198646	2	40-50	7 5/15	15		22.00
199547	2	25-30	7 5/15	20		28.00
206800	2	125-133	7 5/15	15		20.00

Radio A or Filament Battery Charging Attachments				
†260013	{ 1 Cell 2-amp. }	Any	$\frac{3}{4}$	\$1.25

Radio B or Plate Battery Charging Attachments			
†248237	20-24 Cells 0.1-amp.	Any	2 \$3.00
	10-12 " 0.2 "		

Renewal Bulbs for Above

189048	5	Any	7.5/15	3	\$8.00
195528	2	"	7.5/15	1½	4.00

****Complete Stationary Type Tungars**

193191	5	60	7.5/30	58	\$90.00
222847	5	40-50	7.5/30	72	105.00
222849	5	25-30	7.5/30	84	120.00
222850	5	125-133	7.5/30	58	100.00
179492	6	60	7.5/75	81	130.00
198648	6	40-50	7.5/75	91	140.00
199545	6	25-30	7.5/75	105	155.00
206794	6	125-133	7.5/75	81	140.00
*206795	6	60	7.5/75	105	155.00
*206796	6	40-50	7.5/75	125	175.00
*221514	6-12	60	7.5/75	120	220.00
*235190	6-12	40-50	7.5/75	140	240.00
*235191	6-12	25-30	7.5/75	160	265.00

Renewal Bulbs for Stationary Type Tungars

189049	6	Any	7.5/75	3	\$8.00
189048	5	"	7.5/30	3	8.00

*For use on 230 volts A.C. **One extra bulb included.
†For use with 2 or 5-amp. 1-battery Tungars.



G-E Pyrotip Electric Burners

For Lead Burning



The G-E Pyrotip Electric Burner, while designed especially for lead burning in the repair of starting and ignition batteries, may also be used for the repair of vehicle, truck and locomotive batteries and has various other uses about the garage. The equipment is portable, and complete weighs approximately 25 pounds.

May be connected to any alternating current lamp socket by means of the attaching cord, which is 10 ft. long. A plug connector is arranged for connecting and disconnecting the attaching cord when it is not convenient to use the socket switch. The secondary leads are flexible and made from heavy rubber-covered cables.

Cat. No.	Volts	Cycle	WEIGHT, POUNDS	
			Net	Ship.
G219926	110	25-49	30	45
G219927	110	50-140	25	40
G219928	220	25-49	30	45
G219929	220	50-140	25	40

ELECTRODES.—Specify Cat. No. 219930—Carbon Electrode. Standard packages contain 100.

NOTE.—Equipment cannot be used on Direct Current Service. Prices furnished upon application.

G-E Pyrotip Electric Burners

For Heavy Service



The large size Pyrotip is designed to take care of heavy work which, due to the large amount of energy required, cannot be accomplished by the smaller set. Other than being of greater capacity and necessarily larger throughout, it has the same operating characteristics as the set described in the preceding paragraphs.

Particularly adapted for cutting thin sheet steel, and repairing very heavy storage batteries. Portable, weighing approximately 45 lbs. and under normal operating conditions, draws about 800 watts. This depends somewhat on the depth that the carbon is inserted in the material being worked.

This size Pyrotip is too large to be connected to the ordinary 110-volt lighting socket, but it is equipped with a connecting cord and GE624 separable plug which permits ready attachment to an outlet receptacle or an Edison base flush or surface type receptacle.

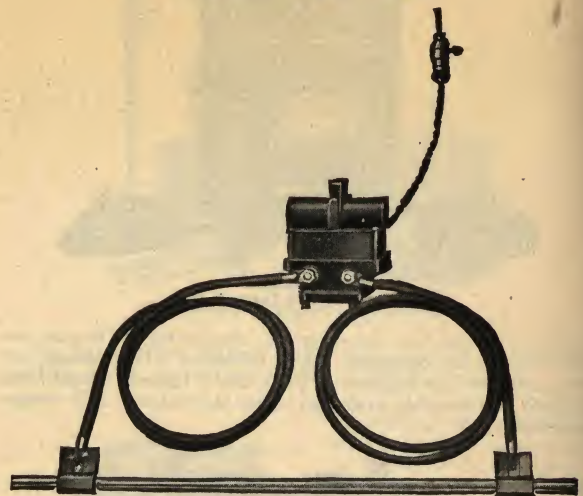
The secondary leads are of extra heavy construction and are detachable. Handle and carbon holder are of heavy design.

Cat. No.	Volts	Cycles	WEIGHT, POUNDS	
			Net	Ship.
G23046	110	50-140	45	60

NOTE.—This equipment cannot be used on Direct Current Service. Prices furnished upon application.

G-E Wayne Pipe Thawers

For Small Water Pipes



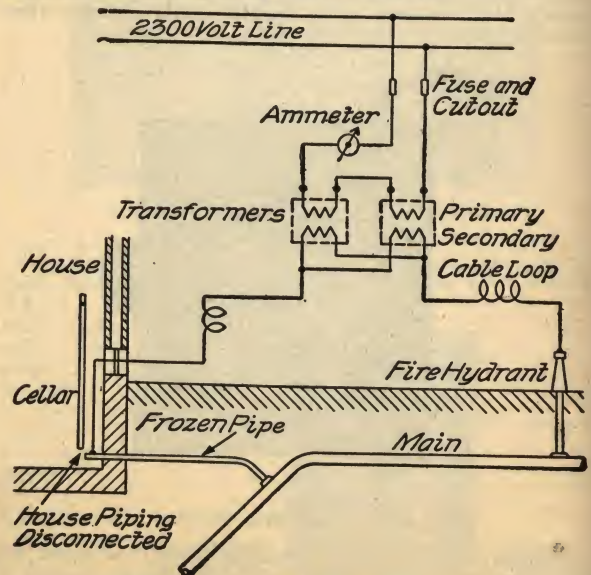
The G-E Wayne Pipe Thawer is a portable device for thawing, electrically, small pipes such as freeze in the average residence.

It consists essentially of a transformer enclosed in a sheet steel case with a "U"-shaped handle. Mounted on a cast-iron base. A lead with separable plug is provided for connection to the lighting circuit. Secondary leads for the attachment to the pipe are detachable. They have a spread which is sufficient to allow thawing out pipes in 15-foot sections.

Pipe thawer consumes about 550 watts. For use on alternating current only, frequency 50/140 cycles, 100-125 volts.

Cat. No.	Volts	PRIMARY DIMENSIONS, INCHES			WEIGHT, POUNDS	
		Length	Width	Height	Net	Ship.
G230905	110	7½	10½	8¾	35	50

For Large Water Pipes



In thawing large frozen water pipes, such as run from the main to the building, satisfactory results can be obtained by utilizing 2-10 or 2-15 kva. standard distribution transformers, with primaries connected in series and secondaries in parallel to give 55 volts, or both primaries and secondaries connected in parallel to give 110 volts, at no load.

No regulating apparatus is considered necessary as variation in current may be obtained by changing the connections and by looping the secondary cable as shown in the diagram.



D & W Oil Fuse Cutouts



Pole Type 50-200 Amperes

When ordering specify catalogue number and in addition, the type, rated ampere capacity and voltage.

Subway Type
50-200 Amperes

In ordering fuse links specify the catalogue number and in addition the ampere rating, type, and mention the ampere rating of the cutout for which they are intended, and line voltage on which the cutout is to be used. If possible, also mention the catalogue number of the cutout.

Supply parts should be positively identified on the requisition by description and the form letter of the cutout as well as the Cat. No. of the cutout.



Pole Type Heavy Service

Standard Pole Type

Cat. No.	Type	Volts	AMPERES		Net Wt., Lbs. with Oil	Price Each
			Rated Capacity	Interrupting		
230014	D-1C	2500	5 to 50	500	37	\$33.00
230000	D-2C	2500	10 " 100	1000	47	45.00
230001	D-3C	2500	10 " 200	2000	80	60.00

Standard Subway Type

246103	D-10B	2500	5 to 50	500	44	\$60.00
246104	D-11B	2500	10 " 100	1000	67	70.00
246105	D-12B	2500	10 " 200	2000	88	95.00

Heavy Service Pole Type

230006	D-8C	2500	10 to 100	2500	43	\$51.00
230007	D-4C	{ 2500 5000	{ 10 " 200 10 " 150	{ 5000 3750	96	75.00
230008	D-5C	2500				
230009	D-6C	5000	100 to 300	7500	156	*
		7500	10 " 150	3750	164	*

Heavy Service Subway Type

246107	D-21B	2500	10 to 100	2500	47	\$79.00
246108	D-22B	{ 2500 5000	{ 10 " 200 10 " 150	{ 5000 3750	99	119.00

*Prices on application.

†2500-volt cutouts are suitable for operation on 4000 Y-connected circuits with dead grounded neutral.

In all cases two cutouts are required between lines.

Fuse Links for D & W Fuse Cutouts

Standard Type
For Use with Oil Fuse Cutouts

Rated Capacity of Links in Amps.	CATALOGUE NUMBERS OF CUTOUTS					
	230014	230000	230001	230008	230009	230010
*235587	230002	230003	230004	For 2500 or 5000 Volts		
	246103	246104	246105			
	230005	230006	230007			
	230011	230012	230013			
		246107	246108			
CATALOGUE NUMBERS OF FUSE LINKS						
5	235673	230553				
10	235675	230555	230566	230581		230608
15	235676	230556	230567	230582		230609
20	235677	230557	230568	230583		230610
25	235678	230558	230569	230584		230611
30		230559	230570	230585		230612
35		230560				
40		230561	230571	230586		230613
50		230563	230572	230587		230614
60			230573	230588		230615
75			230575	230590		230617
80			230576	230591		230618
90			230577	230592		230619
100			230578	230593	230620	230620
125				230596	230623	230623
150				230599	230626	230626
175				230602	235605	
200				230605	235606	
225					235607	
250					235608	
275					235609	
300					235610	

Weight Standard Package, Pounds

Price, Standard Package of 10 Links

1/2	1/2	1	2 1/4	2 1/4	2 1/4
\$4.50	\$4.50	\$7.50	\$18.00	\$18.00	\$18.00

Reactive Type

For Use with Oil Fuse Cutouts

Rated Capacity of Links in Amps.	CATALOGUE NUMBER OF CUTOUTS					
	230000	230001	230007	**	230008	230009
	230006	230007	230013	For Use on 5000 Volts	For 2500 Volts Only	
	230003	230004	230013			
	246104	246105	246108			
	230012	230013	246108			
	246107	246108				
CATALOGUE NUMBERS OF FUSE LINKS						
10	230664	230704	235636		230681	235613
15	230665	230705	235637		230682	235614
20	230666	230706	235638		230683	235615
25	230667	230707	235639		230684	235616
30	230668	230708	235640		230685	235617
35	230669	230709	235641		230686	235618
40	230670	230710	235642		230687	235619
50	230672	230712	235644		230689	235621
60	230673	230713	235645		230690	235622
75	230675	230715	235647		230692	235624
80	230676	230716	235648		230693	235625
90	230677	230717	235649		230694	235626
100	230678	230718	235650	235663	230695	235627
125		230721	235653	235664	230698	
150		230724	235656	235665	230701	
175		230727		235666		
200		230730		235667		
225				235668		
250				235669		
275				235670		
300				235671		

Weight Standard Package, Pounds

Price, Standard Package of 10 Links

2 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
\$37.50	\$37.50	\$37.50	\$37.50	\$37.50	\$37.50

*Cat. No. 235587 is now obsolete. The links listed are for the boxes which are already in service.

**Cat. No. 230008 when used on 5000-volt circuits will require special reactive type links. Full data on request.

†The standard links for 150 amperes and below listed for these cutouts will operate satisfactorily on 5000 volts.

‡When Cat. Nos. 230007 and 230013 are used on 5000-volt circuits where reactive type fuse links are required, use links Cat. Nos. 235636 to 235656. Links Cat. Nos. 230704 to 230730 are only good for 2500-volt circuits.

§Not suitable for use in Cat. No. 230010.



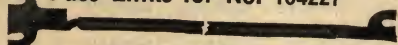
G-E Insulator Type Primary Cutouts

Single Pole, 30 Amp., 2500 Volts



Cat. No.	Description	Price Each
104227	Insulator Type Primary Cut-out Provided with Spring Catch Contact with Two Binding Screws	\$1.75
246477	Base for No. 104227	1.20
104577	Plug Only for No. 104227 . . . . .	.55
260276	Combination Safety Plug Puller and Switch Hook, Overall Length, 42 Inches	5.00

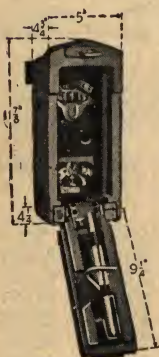
Fuse Links for No. 104227



Cat. No.	Amps.	Std. Pkg.	Price Each	Cat. No.	Amps.	Std. Pkg.	Price Each
259480	1	100	\$.20	259485	15	100	\$.20
259481	2	100	.20	259486	20	100	.20
259482	3	100	.20	259487	25	100	.20
259483	5	100	.20	259488	30	100	.20
259484	10	100	.20	.....	..	...	...

G-E Expulsion Type Primary Cutouts

30 Amp. 7500 Volts



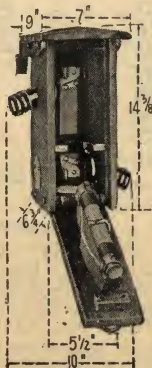
Cat. No.	Description	Price Each
208989	30-amp. 7500-volt Cut-out Suitable for Either Right or Left-Hand Entrance, Complete with Link Holder Enclosed in Porcelain Box	\$8.50
208990	Link Holder Only for No. 208989	1.40

Fuse Links

Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
210033	1	\$.20	210039	12	\$.20
210034	2	.20	210040	15	.20
210035	3	.20	210041	20	.20
210036	5	.20	210042	25	.20
210037	8	.20	210043	30	.20
210038	10	.20	.....	...	...

100 Amp., 2500-7500 Volts

Cat. No.	Description	Price Each
260773	100-amp. 2500-7500 Volt Cutout Complete with Link Holder and Suitable for Either Right or Left Hand Entrance. Enclosed in Wooden Box	\$12.50
106902	Link Holder for No. 260773	2.75



Fuse Links

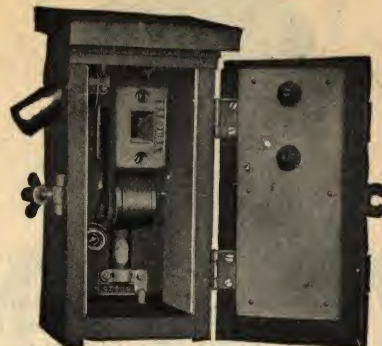
Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
248529	5	\$.20	248537	50	\$.20
248531	10	.20	248538	60	.20
248532	15	.20	248539	70	.20
248533	20	.20	248540	75	.20
248534	20	.20	248541	80	.20
248535	30	.20	248542	90	.20
248536	40	.20	248543	100	.20

Standard package, 100.

G-E Magnetic Blow-out Lightning Arresters

For Electric Railway Circuits

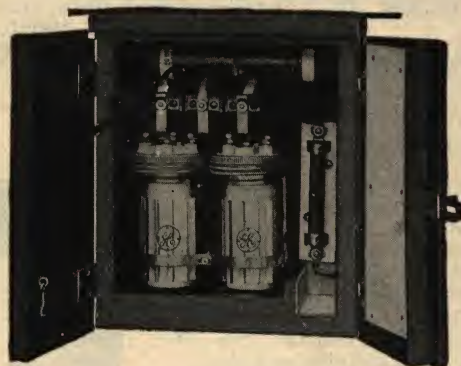
MD-3 Direct Current



Cat. No.	Circuit Voltage	Description	Std. Pkg.	Approx. Ship. Wt., Lbs.	Price Each
164403	0-350	For Indoor Service	12	12	\$11.00
164404	0-350	" Outdoor "	12	20	17.00
164405	350-750	" Indoor "	12	12	11.00
164406	350-750	" Outdoor "	12	20	17.00

G-E Aluminum Lightning Arresters

Direct Current



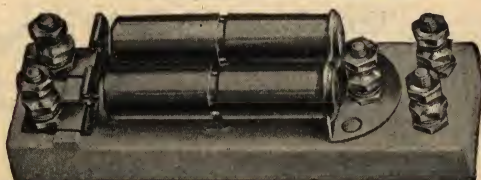
One D. C. aluminum arrester should be installed on each car and, at the stations and substations on each feeder and each generator or synchronous converter.

The arrester is suitable for either indoor or outdoor installations.

Cat. No.	Circuit Volts	Description	Std. Pkg.	Approx. Ship. Wt., Lbs.	Price Each
166296	325-650	In Wooden Box, Slanting Top . . .	4	60	\$46.00
166298	325-650	" " " Flat " . . .	4	60	46.00
166297	650-900	" " " Slanting " . . .	4	115	70.00
166299	650-900	" " " Flat " . . .	4	115	54.00

G-E Vacuum Tube Lightning Arresters

For Railway Signal Circuits



Vacuum tube arrester has standard railway signal association binding posts. Cat. No. 1518810 has five terminals, for lines, ground and instruments. Cat. No. 1518809 has only three terminals, two for the lines and one for the ground.

Cat. No.	Description	Std. Pkg.	Approx. Ship. Wt., Lbs.	Price Each
1518810	Five-terminal	24	70	\$7.00
1518809	Three-terminal	24	60	6.00



G-E Telephone Line Insulating Transformers



Designed to protect users of telephones from high potentials induced on telephone lines when on the same poles with or in the near vicinity of the transmission lines. The transformer is heavily insulated and when properly installed with the combined double-pole fused switch and lightning arrester, No. 201111, affords safety to the telephone instrument.

Cat. No.	Approx. Ship. Wt., Lbs.	Price Each
221243	70	\$60.00

G-E Combined Switches and Arresters

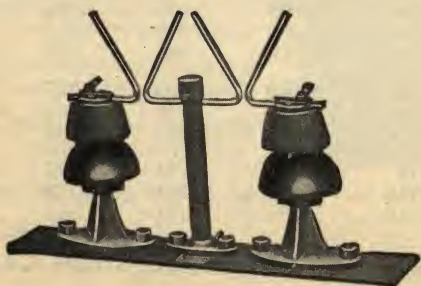
Double-pole, Fused



No. 201111 is for indoor use on telephone circuits, the insulators of which have a dry test voltage not exceeding 50000 volts. May be used on circuits of higher insulation, if double-pole horn gap No. 201112 is installed on line side.

Cat. No.	Description	Ship. Wt., Lbs.	Price Each
201111	For Indoor Use.....	55	\$48.00
1559550G2	Extra Fuse Holder Including No 121077 Fuse.....		
121077	Fuse Wire in Asbestos.....		

G-E Double-pole Horn Gaps

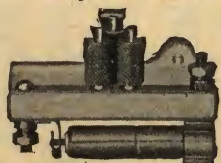


To prevent the full line potential being thrown on the telephone protective equipment in the case of a cross with the telephone line.

Price, No. 201112, for Outdoor Use, Wt., 70 Lbs. each \$28.00

G-E Multigap and Vacuum Gap Arresters

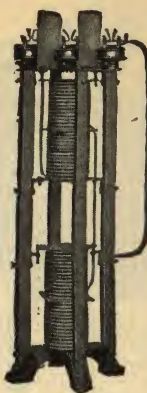
For certain kinds of telephone circuits, efficient lightning protection can be secured by installing the arrester between lines and adjustable air gaps between lines and ground.



Price, No. 166612, for Indoor Use, Wt., 3 Lbs. . . each \$5.00

G-E Oxide Film Lightning Arresters

For Alternating Current



The oxide film arrester consists essentially of a number of cells with a gap in series between line and ground.

A cell consists of lead peroxide pressed between two brass plates the inner sides of which have a varnish coating.

The cells are held together under slight pressure and are arranged in sections or stacks according to the voltage and kind of circuit.

When a lightning voltage sparks over the gaps it is impressed on the cells and breaks down the insulating coating on the metal plates. The breakdown occurs in the form of a small puncture of the film coating.

The lead peroxide has a low resistance so that there is a free flow of lightning current. The heat of the current changes the lead peroxide to another oxide of lead that has a high resistance. Thus a high resistance is automatically cut into the circuit and prevents the flow of line current.

Select arresters for maximum voltage of system regardless of line drop. Oxide film arresters listed are suitable for altitudes up to 4000 feet.

Three-phase—Indoor Service

Cat. No.	Circuit Voltage	Approx. Ship. Wt., Lbs.	Price Each
*1576274	1000- 3000	70	\$84.00
1576226	1000- 3000	240	192.00
1576227	3000- 5000	300	264.00
1576228	5000- 7500	380	350.00
1576229	7500-15000	680	690.00
1576230	15000-25000	1050	1108.00
1576231	25000-37000	1500	1546.00
1576233	37000-50000	3500	2346.00
1576235	50000-73000	4000	3380.00

Three-phase—Outdoor Service

Cat. No.	Circuit Voltage	Approx. Ship. Wt., Lbs.	Price Each
1576267	300- 1000	90	\$80.00
*2516513	1000- 3000	150	98.00
1576236	1000- 3000	590	458.00
1576237	3000- 5000	650	538.00
1576238	5000- 7500	710	612.00
1576239	7500-15000	1500	1032.00
1576240	15000-25000	2100	1466.00
1576241	25000-37000	2800	2130.00
1576243	37000-50000	4900	3106.00
1576245	50000-73000	5800	4338.00

Single-phase—Indoor Service

Not for use on single-phase circuits from quarter-phase, 3-wire circuits.

Cat. No.	Circuit Voltage	Approx. Ship. Wt., Lbs.	Price Each
1576223	1000-3000	190	\$170.00
1576224	3000-5000	270	238.00
1576225	5000-7500	360	310.00

Single-phase—Outdoor Service

Cat. No.	Circuit Voltage	Approx. Ship. Wt., Lbs.	Price Each
1576255	1000-3000	550	\$396.00
1576259	5000-7500	875	592.00

*Single-pole, for 2300-volt delta or 4100 Y grounded circuit.



G-E Pellet Type Oxide Film Lightning Arresters

Outdoor Service

For Delta or Undergrounded Y Three-phase Systems
All arresters are single pole.

Cat. No.	Circuit Voltage	No. OF ARRESTERS REQUIRED		Std. Pkg.	Approx. Ship. Wt., Lbs.	Price Each
		1 Ph.	3 Ph.			
*146187	0-300	2	3	24	1	\$2.25
*178915	300-1000	2	3	12	10	9.00
2515514G1	1000-3000	2	3	12	12	11.50
2515571G1	3000-5000	2	3	6	25	25.00
2515571G2	5000-7500	2	3	6	35	36.00
2515571G3	7500-11900	2	3	3	55	40.00
2515571G4	11900-15000	2	3	3	65	50.00

*Compression chamber type.

For Three-phase Systems with Thoroughly Grounded Neutral

2515514G1	3000-5000	113	12	12	\$11.50
2515571G1	5000-7500	113	6	25	25.00
2515571G2	7500-11900	113	6	35	36.00
2515571G3	11900-15000	113	3	55	40.00
2515571G4	15000-18000	113	3	65	50.00

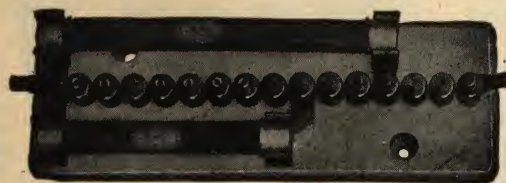
††Use one arrester on outside wire at single-phase installation between one outside wire and neutral. Use also on neutral wire No. 146187 arrester if voltage is not over 300 volts; if, on account of unbalancing, voltage is between 300 and 1000 volts use No. 178915. Use two arresters at a single phase installation between outside wires.

For the protection of meters, trickle-charge rectifiers and similar devices connected to secondary circuits, compression chamber arrester Cat. No. 1559591G1 should be used.

Cat. No.	Circuit Voltage	Std. Pkg.	Ship. Wt., Lbs.	Price Each
1559591G1	0-500	24	1.3	\$3.00



G-E Multigap A. C. Lightning Arresters



All arresters are single-pole unless otherwise designated.

Indoor Service

Cat. No.	Circuit Voltage	Std. Pkg.	Ship. Wt., Lbs.	Price Each
35082	0-300	12	6	\$5.00
149736	300-1000	12	10	10.00
149752	1000-3000	12	10	11.50
149755	3000-4000	12	20	23.00
149752	*3000-4500	12	10	11.50

Outdoor Service

Cat. No.	Circuit Voltage	Std. Pkg.	Ship. Wt., Lbs.	Price Each
35082	0-300	12	6	\$5.00
149744	300-1000	12	20	16.00
149757	1000-3000	12	20	18.00
149760	3000-4000	12	45	30.00

*Applies only to 3-phase grounded neutral systems.

†3-pole, for 3-phase circuits,

G-E Insulated Choke Coils



Choke coils are recommended for use with all high-voltage lightning arresters when used on overhead lines. They should not be installed with lightning arresters when used to protect cables over half a mile long, without careful consideration.

Indoor

Cat. No.	Maximum Volts	Maximum Amperes	Shipping Wt., Lbs.	Price Each
76339	4500	25	13	\$11.00
76340	4500	50	16	14.00
25401	7500	25	21	29.00
3416	7500	100	45	40.00
36882	7500	200	40	44.00
1559599G1	15000	100	105	52.00
1559599G3	15000	200	130	60.00
1559599G5	15000	400	160	86.00
1559599G2	25000	100	120	56.00
1559599G4	25000	200	145	66.00
1559599G6	25000	400	170	92.00

Outdoor or Indoor

1559598G1	15000	100	160	\$64.00
1559598G6	15000	200	175	72.00
1559598G11	15000	400	190	94.00
1559598G2	25000	100	170	66.00
1559598G7	25000	200	180	76.00
1559598G12	25000	400	200	102.00
1559598G3	37000	100	165	78.00
1559598G8	37000	200	185	88.00
1559598G13	37000	400	205	114.00
1559598G4	50000	100	225	104.00
1559598G9	50000	200	240	114.00
1559598G14	50000	400	280	140.00
1559598G5	73000	100	225	134.00
1559598G10	73000	200	270	144.00
1559598G15	73000	400	310	170.00

G-E Line Suspension Choke Coils



May be used on any voltage.

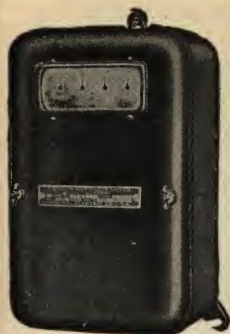
Cat. No.	Maximum Amperes	Shipping Wt., Lbs.	Price Each
*79596	100	15	\$16.00
2515525G1	100	45	44.00
2515525G2	200	65	62.00
2515525G3	400	100	100.00

*For use at installations of not over 100 kv-a.



Type C-6 G-E Watthour Meters

Thomson—Side Connected Metal Cover
Direct Current



This meter is made for direct current circuits. It has unusually high torque, light weight moving element, small commutator gravity control brushes and adjustable shunt field coil. It can be furnished for back connections. Prices on application.

Approximate shipping weight, all voltages, 5 to 50 amperes, inclusive, one in a box, 26 lbs., two in a box, 50 lbs.; 75 amperes, one in a box, 35 lbs., two in a box, 69 lbs.; 100 to 600 amperes, one in a box, 48 lbs.

State normal operating voltage of circuit when ordering.

100-120 Volts, Direct Current, Two-wire

Cat. No.	CAPACITY H.P.	Amps.	Price Each	Cat. No.	CAPACITY H.P.	Amps.	Price Each
37594	5	\$31.00	37599	....	75	\$72.00
37595	10	33.00	37600	....	100	85.00
37596	15	37.00	37601	....	150	99.00
37597	25	44.00	37602	....	300	126.00
37598	50	58.00	37603	....	600	180.00

200-240 Volts, Direct Current, Two-wire

37614	1 1/4	5	\$35.00	37619	20	75	\$74.00
37615	2	10	40.00	37620	25	100	87.00
37616	3 1/2	15	47.00	37621	40	150	112.00
37617	7	25	54.00	37622	80	300	144.00
37618	15	50	68.50	37623	160	600	200.00

200-240 Volts, Direct Current, Three-wire

37604	....	5	\$35.00	37609	....	75	\$79.00
37605	....	10	40.00	37610	....	100	94.00
37606	....	15	47.00	37611	....	150	121.00
37607	....	25	54.00	37612	....	300	166.00
37608	....	50	71.00	.....	....	...	.....

Type CS-3 Watthour Meters

Astatic—Side Connected—Metal Covers
Direct Current

Type CS-3 is an astatic watthour meter for direct current service and is especially designed by an astatic arrangement of the armature and field coils for operation with accuracy in the presence of stray fields.

This meter can be furnished in back connected form, known as Type CS-4. Prices on application.

Approximate shipping weight, all capacities and voltages, 60 pounds.

Always state normal operating voltage of circuit when ordering.



100-200 Volts, Direct Current, Two-wire

Cat. No.	CAPACITY H.P.	Amps.	Price Each	Cat. No.	CAPACITY H.P.	Amps.	Price Each
195737	...	15	\$100.00	195742	...	150	\$130.00
195738	...	25	105.00	195743	...	200	140.00
195739	...	50	110.00	195744	...	300	160.00
195740	...	75	115.00	195745	...	400	180.00
195741	...	100	120.00	195746	...	600	210.00

200-240 Volts, Direct Current, Two-wire

195748	4	15	\$110.00	195753	40	150	\$150.00
195749	7	25	117.50	195754	50	200	160.00
195750	15	50	125.00	195755	80	300	180.00
195751	20	75	132.50	195756	100	400	200.00
195752	25	100	140.00	195757	160	600	230.00

200-240 Volts, Direct Current, Three-wire

195759	...	15	\$115.00	195764	...	150	\$165.00
195760	...	25	125.00	195765	...	200	175.00
195761	...	50	135.00	195766	...	300	195.00
195762	...	75	145.00	195767	...	400	215.00
195763	...	100	155.00	.....	...	...	.....

Type I-14 G-E Watthour Meters

Front Connected—Metal or Glass Covers
Single-phase, Alternating Current



This watthour meter is self-contained, that is, requires no instrument transformer, except when the current exceeds 300 amperes, 2-wire, and 150 amperes, 3-wire, a current transformer is necessary, or when the voltage is more than 600 volts, both current and potential transformers are required.

Approximate shipping weight, all voltages metal covers, 5 to 25 amperes, one in a box, 10 lbs.; two in a box, 20 lbs.; 50 and 75 amperes, one in a box, 17 lbs.; two in a box, 30 lbs.; 100 and 150 amperes, one in a box, 32 lbs.; two in a box, 65 lbs.; 200 and 300 amperes, 2-wire, one in a box, 35 lbs.; two in a box, 67 lbs.

When ordering state cycles desired.

110 Volts, Alternating Current, Two-wire

40-133 CYCLES				25-30 CYCLES			
Cat. No.	Amperes	Price Each		Cat. No.	Amperes	Price Each	
151942	5	\$16.65		152860	5	\$16.65	
151943	10	17.60		152861	10	17.60	
151944	15	21.50		152862	15	21.50	
151945	25	26.00		152863	25	26.00	
151946	50	35.50		152864	50	35.50	
151947	75	41.00		152865	75	41.00	
151948	100	45.00		152866	100	45.00	
151949	150	48.50		152867	150	48.50	
151950	200	50.00		152868	200	50.00	
151951	300	51.00		152869	300	51.00	

220 Volts, Alternating Current, Two-wire

151952	5	\$18.65	152870	5	\$18.65
151953	10	19.60	152871	10	19.60
151954	15	23.50	152872	15	23.50
151955	25	28.50	152873	25	28.50
151956	50	38.50	152874	50	38.50
151957	75	44.00	152875	75	44.00
151958	100	48.00	152876	100	48.00
151959	150	52.00	152877	150	52.00
151960	200	54.00	152878	200	54.00
151961	300	55.00	152879	300	55.00

220 Volts, Alternating Current, Three-wire

151962	5	\$18.65	152880	5	\$18.65
151963	10	19.60	152881	10	19.60
151964	15	23.50	152882	15	23.50
151965	25	28.50	152883	25	28.50
151966	50	38.50	152884	50	38.50
151967	75	44.00	152885	75	44.00
151968	100	48.00	152886	100	48.00
151969	150	52.00	152887	150	52.00

Meters for Use with Instrument Transformers

Cat. No.	Amperes	Volts	Cycles	Wire	Price Each
188640	5	110	25-30	2	\$21.00
188641	5	110	40-133	2	21.00
*188642	5	220	25-30	2 and 3	23.00
*188643	5	220	40-133	2 " 3	23.00
*188644	5	220	25-30	3	23.00
*188645	5	220	40-133	3	23.00

*For 3-wire transformer rated circuits for use with double primary single secondary current transformers, the 2-wire meter, Cat. No. 188642 or No. 188643 is used. For 3-wire transformer rated circuits for use with two single primary current transformers, the 3-wire Cat. No. 188644 or No. 188645 is used.



G-E Types D-7 and D-6 Watthour Meters

Type D-7, 5 to 25 Amp; Type D-6, 50 to 150 Amp.

Polyphase, Alternating Current

Front Connected—Metal or Glass Covers



The operation of this meter is based on the two wattmeter principle in metering the energy in a polyphase system. It utilizes two single-phase elements acting on a common moving element and recording on a single register. It is suitable for metering 3-wire, 3-phase; 3-wire, 2-phase and 4-wire, 2-phase balanced or unbalanced systems. Meters for 4-wire, 3-phase differ very slightly in their design.

This meter is small, compact, convenient to handle and install and easy to test and adjust. Micrometer adjustments are provided for full and light load calibration as well as for balancing the elements. A convenient power-factor adjustment is also provided.

Since this type possesses an electrical element similar to the single-phase type, its accuracy is of the same high order.

This meter is self-contained, that is, requires no instrument transformer, except when the current exceeds 150 amperes, a current transformer is necessary, or when the voltage is more than 600 volts, both current and potential transformers are required. In such cases, meters for use on the secondary of transformers should be so ordered.

Approximate shipping weight, all voltages, 5 to 25 amperes, one in a box, 34 lbs.; two in a box, 60 lbs.; 50 and 75 amperes, one in a box, 45 lbs.; two in a box, 85 lbs.; 100 and 150 amperes, one in a box, 49 lbs.; two in a box, 90 lbs.

When ordering, state cycles desired.

110 Volts Alternating Current, 25-133 Cycles

CATALOGUE NUMBERS			Kw. Capacity Non-ind. Loads	H.P. Rating of Motor 2 and 3-phase	Price Each
3-wire 2 and 3-phase	4-wire 2-phase	Amperes			
172255	172307	5	1	1	\$52.00
172256	172308	10	2	2	56.00
172257	172309	15	3	3	59.00
172258	172310	25	5	5	63.00
172259	172311	50	10	10	71.00
172260	172312	75	15	15	78.00
172261	172313	100	20	20	83.00
172262	172314	150	30	30	92.00

220 Volts Alternating Current, 25-133 Cycles

172268	172315	5	2	2	\$58.00
172269	172316	10	4	4	62.00
172270	172317	15	6	6	65.00
172271	172318	25	10	10	69.00
172272	172319	50	20	20	78.00
172273	172320	75	30	30	85.00
172274	172321	100	40	40	90.00
172275	172322	150	60	60	99.00

440 Volts Alternating Current, 25-133 Cycles

172281	172323	5	4	4	\$72.00
172282	172324	10	8	8	76.00
172283	172325	15	12	12	79.00
172284	172326	25	20	20	84.00
172285	172327	50	40	40	92.00
172286	172328	75	60	60	99.00
172287	172329	100	80	80	105.00
172288	172330	150	120	120	112.00

550 Volts Alternating Current, 25-133 Cycles

172294	172331	5	5	5	\$72.00
172295	172332	10	10	10	76.00
172296	172333	15	15	15	79.00
172297	172334	25	25	25	84.00
172298	172335	50	50	50	92.00
172299	172336	75	75	75	99.00
172300	172337	100	100	100	105.00
172301	172338	150	150	150	112.00

G-E Watthour Meters

Type D-7, 5 to 25 Amp; Type D-6, 50 to 150 Amp.

Polyphase, Alternating Current

Front Connected, Metal or Glass Covers



This meter, as here listed, is self-contained, that is, requires no instrument transformer, except when the current to be metered exceeds 75 amperes, a current transformer is necessary, or when the Δ voltage is more than 600 volts, three current and two potential transformers are required. In such case, meters for use on the secondary of transformers should be ordered, designating the meters by Cat. No. and ratings as given below.

Approximate shipping weight, all voltages, metal covers, 5 to 25 amperes, one in a box, 34 lbs.; two in a box, 60 lbs.; 50 and 75 amperes, one in a box, 45 lbs.; two in a box, 85 lbs.

Always state nature and cycles of circuit, and if for 4-wire, 3-phase, give Delta and Y voltages.

For 4-wire, 3-phase Circuits Only

220 Δ , 127Y Volts, 25-133 Cycles

Cat. No.	Amperes	KW Capacity Non-ind. Loads	H.P. Rating of Motor	Price Each
172625	5	2	2	\$58.00
172626	10	4	4	62.00
172627	15	6	6	65.00
172628	25	10	10	69.00
172629	50	20	20	78.00
172630	75	30	30	85.00

440 Δ , 254Y Volts, 25-133 Cycles

172631	5	4	4	\$72.00
172632	10	8	8	76.00
172633	15	12	12	79.00
172634	25	20	20	84.00
172635	50	40	40	92.00
172636	75	60	60	99.00

Meters for Use with Instrument Transformers

For 3-phase, 3-wire: 2 phase, 3 and 4-wire Circuits, 25-133 Cycles

Cat. N.	Cap. Amps.	Volts	Price Each	Cat. No.	Cap. Amps.	Volts	Price Each
188633	5	110	\$52.00	188635	5	440	\$72.00
188634	5	220	58.00	188636	5	550	72.00

Meters for Use with Three Current and Two Potential Transformers

For 3-phase, 4-wire Circuits, 25-133 Cycles

Cat. No.	Amperes	Δ Voltage	Y Voltage	Price Each
188637	5	190	110	\$58.00

Meters for Use with Three Current Transformers

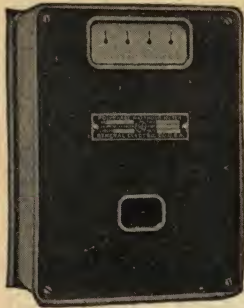
For 3-phase, 4-wire Circuits, 25-133 Cycles

Cat. No.	Amperes	Δ Voltage	Y Voltage	Price Each
188638	5	220	127	\$58.00
188639	5	440	254	72.00



G-E Types DS-6 and DS-7 Watthour Meters

For Switchboard Service
Polyphase, Alternating Current



Type DS-6

The Type DS-6 and DS-7 meters are designed expressly for switchboard service. In principle they are like the Type D-6 but are provided with housing as shown adapting them for mounting on panels. They possess the same electrical characteristics as the Type D-6. They are provided with special testing terminals so that access to the back of the panel is unnecessary in order to introduce testing instruments or to cut the meter out of service. Micrometer adjustments are provided for full and light load and

for the balance of elements. A suitable power-factor adjustment is also available.

The Type DS-6 is furnished in an attractive cast metal case finished in dull black with raised portions of polished copper very similar to the single-phase Type IS-4.

The Type DS-7 is furnished with a glass cover, the metal parts being finished in dull black and copper.

Type DS-6 Watthour Meter

Back-connected, Metal Cover, Dull Black Finish

For 3-phase, 3-wire; 2-phase, 3-wire; 2-phase, 4-wire Circuits
25 to 133 Cycles, Self-contained
110 Volts

Cat. No.	Amp.	Approx. Kilowatt Rating of Meter	H. P. Rating of Motor with which Meter can be Used	Price Each
187734	5	1	1	\$72.50
187735	10	2	2	77.00
187736	15	3	3	81.50
187737	25	5	5	88.50
187738	50	10	10	102.00
187739	75	15	15	112.00
187740	100	20	20	120.00
187741	150	30	30	136.50

220 Volts

187742	5	2	2	\$79.50
187743	10	4	4	84.00
187744	15	6	6	88.00
187745	25	10	10	95.00
187746	50	20	20	108.50
187747	75	30	30	119.00
187748	100	40	40	128.00
187749	150	60	60	144.00

440 Volts

187750	5	4	4	\$89.50
187751	10	8	8	94.50
187752	15	12	12	99.00
187753	25	20	20	106.50
187754	50	40	40	121.50
187755	75	60	60	132.50
187756	100	80	80	142.00
187757	150	120	120	160.00

550 Volts

187758	5	5	5	\$89.50
187759	10	10	10	94.50
187760	15	15	15	99.00
187761	25	25	25	106.50
187762	50	50	50	121.50
187763	75	75	75	132.50
187764	100	100	100	142.00
187765	150	150	150	160.00

Meters for Use with Transformers

Cat. No.	Amp.	Volts	Price Each	Cat. No.	Amp.	Volts	Price Each
187766	5	110	\$72.50	187768	5	440	\$89.50
187767	5	220	79.50	187769	5	550	89.50

When ordering, state cycles desired.

Type DS-6 G-E Watthour Meters

For Switchboard Service
Back-connected, Metal Cover

For 3-phase, 4-wire Circuits Only; 25-133 Cycles, Self-contained
220 Volts, Delta; 127 Volts Y

Cat. No.	Amp.	Approx. Kilowatt Rating of Meter	H.P. Rating of Motor with which Meter can be Used	Price Each
188344	5	2	2	\$79.50
188345	10	4	4	84.00
188346	15	6	6	88.00
188347	25	10	10	95.00
188348	50	20	20	108.50
188349	75	30	30	119.00
440 Volts, Delta; 254 Volts Y				
188350	5	4	4	\$89.50
188351	10	8	8	94.50
188352	15	12	12	99.00
188353	25	20	20	106.50
188354	50	40	40	121.50
188355	75	60	60	132.50

Meters for Use with Transformers

For Use with Current Transformers

Cat. No.	Amp.	Volts Δ	Volts Y	Price Each
188356	5	220	127	\$79.50
188357	5	440	254	89.50

For Use with Current and Potential Transformers

188358	5	190	110	\$79.50
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Approximate net weight each, 39 pounds. Approximate shipping weight, one in box, 72 pounds; two in box, 140 pounds.

When ordering, state cycles desired.

Type DS-7 G-E Watthour Meters

Back-Connected, Glass Cover

For 3-phase, 3-wire; 2-phase, 3-wire and 4-wire Circuits
25-133 Cycles, Self-contained
110 Volts

Cat. No.	Amp.	Kw. Capacity Non-Ind. Loads	Motor H.P. Rating 2 and 3 Phase	Price Each
199257	5	1	1	\$110.00
199258	10	2	2	114.50
199259	15	3	3	119.00
199260	25	5	5	126.00
199261	50	10	10	139.50
199262	75	15	15	149.50
199263	100	20	20	157.50
199264	150	30	30	174.00

220 Volts

199265	5	2	2	\$117.00
199266	10	4	4	121.50
199267	15	6	6	125.50
199268	25	10	10	132.50
199269	50	20	20	146.00
199270	75	30	30	156.50
199271	100	40	40	165.50
199272	150	60	60	181.50

440 Volts

199273	5	4	4	\$127.00
199274	10	8	8	132.00
199275	15	12	12	136.50
199276	25	20	20	144.00
199277	50	40	40	159.00
199278	75	60	60	170.00
199279	100	80	80	179.50
199280	150	120	120	197.50

550 Volts

199281	5	5	5	\$127.00
199282	10	10	10	132.00
199283	15	15	15	136.50
199284	25	25	25	144.00
199285	50	50	50	159.00
199286	75	75	75	170.00
199287	100	100	100	179.50
199288	150	150	150	197.50

When ordering, state cycles desired.



Type DS-7 G-E Watthour Meters For Switchboard Service

Back-Connected, Glass Cover,

For 3-phase, 3-wire, 2-phase, 3-wire and 4-wire

Meters for Use with Instrument Transformers

Cat. No.	Amp.	Volts	Price Each	Cat. No.	Amp.	Volts	Price Each
199289	5	110	\$110.00	199291	5	440	\$127.00
199290	5	220	117.00	199292	5	550	127.00

For Four-wire, Three-phase Circuits Only

25-133 Cycles Self-contained

220Δ 127 Y Volts

Cat. No.	Amp.	Kw. Capacity Non-Inductive Load	Motor H.P. Rating	Price Each
199293	5	2	2	\$117.00
199294	10	4	4	121.50
199295	15	6	6	125.50
199296	25	10	10	132.50
199297	50	20	20	146.00
199298	75	30	30	156.50

440Δ 254 Y Volts

Cat. No.	Amp.	Kw. Capacity Non-Inductive Load	Motor H.P. Rating	Price Each
199299	5	4	4	\$127.00
199300	10	8	8	132.00
199301	15	12	12	136.50
199302	25	20	20	144.00
199303	50	40	40	159.00
199304	75	60	60	170.00

Meters listed above are self-contained, that is, require no instrument transformers. When the currents to be metered exceed 75 amperes, current transformers are necessary, or when the Δ voltage of the circuit is more than 600 volts, both current and potential transformers are required. In such cases meters for use on the secondary of transformers should be ordered designating the meters by catalogue numbers and ratings as given below.

Meters for Use with Current and Potential Transformers

Cat. No.	Amp.	Volts	Price Each
199307	5	190Δ110Y	\$117.00

Meters for Use with Current Transformers Only

Cat. No.	Amp.	Volts	Price Each
199305	5	220Δ127Y	\$117.00
199306	5	440Δ254Y	127.00

The catalogue numbers cover the meter and do not include transformers which should be ordered in addition giving complete rating. Unless otherwise specified, meters when ordered with transformers will be calibrated and furnished with suitable register to read directly the primary energy.

Approximate net weight each, 34 pounds. Approximate shipping weight, one in a box, 85 pounds; two in a box, 160 pounds.

Always specify the nature and frequency of the circuit on which the meter is to be used.

When ordering three-phase, four-wire meters listed, always state both the Δ and Y voltage of the circuit.

All meters listed may be used on circuits the voltage of which is not more than 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside of these limits the normal operating voltage must be specified.

All meters listed under "Self-Contained" require no transformers.

When the current to be metered exceeds the maximum listed above current transformers are necessary, or when the voltage of the circuit is more than 600 both current and potential transformers are necessary. In such cases meters for use on the secondary of transformers should be ordered by catalogue number and rating as listed under "Meters for Use with Transformers." These catalogue numbers cover the meter only and do not include transformers. Transformers should be ordered separately by catalogue number and rating.

Unless otherwise specified meters when ordered with transformers or for use with transformers will be calibrated and furnished with suitable register to read directly the primary energy.

Type CS G-E Watthour Meters For Switchboard Service

Direct Current Astatic



This meter embodies the double or astatic arrangement of field coil and armature as in the CS-3 meter. The magnets are astatically arranged and magnetically shielded by a laminated iron box which totally surrounds them. The resistance for the potential circuit is mounted within the case so that all parts are at the same relative temperature, minimizing errors arising from this source. It is furnished with glass cover, the finish of the meter being dull black and copper. When ordering, state normal operating voltage of circuit.

100 to 105, 106 to 110,
to 115, 116 to 120 Volts
Two-wire

Cat. No.	Amp.	Price Each
58235	50	\$250.00
58236	75	260.00
58237	100	270.00
58238	150	280.00
58239	200	290.00
58240	300	310.00
58241	400	330.00
58242	600	360.00
58243	800	390.00
58244	1200	420.00
58245	1500	450.00

200 to 210, 211 to 220, 221
to 230, 231 to 240 Volts
Two-wire

Cat. No.	H.P.	Amp.	Price Each
58246	15	50	\$270.00
58247	20	75	280.00
58248	25	100	290.00
58249	40	150	305.00
58250	50	200	315.00
58251	80	300	335.00
58252	108	400	355.00
58253	160	600	390.00
58254	200	800	420.00
58255	320	1200	450.00
58256	400	1500	480.00

200 to 210, 211 to 220, 221
to 230, 231 to 240 Volts
Three-wire

Cat. No.	Amp.	Price Each
58257	50	285.00
58258	75	300.00
58259	100	315.00
58260	150	340.00
58261	200	355.00
58262	300	380.00
58263	400	410.00
58264	600	460.00
58265	800	510.00
58266	1200	560.00
58267	1500	610.00

500 to 550, 551 to 600
Volts
Two-wire

Cat. No.	H.P.	Amp.	Price Each
58268	30	50	290.00
58269	50	75	300.00
58270	60	100	310.00
58271	100	150	330.00
58272	120	200	340.00
58273	200	300	360.00
58274	240	400	380.00
58275	400	600	420.00
58276	500	800	450.00
58277	800	1200	480.00
58278	1000	1500	510.00

Type G-3 Watthour Meters

For Switchboard Service
Direct Current Astatic

This type of meter is made along the same lines as the Type CS with the exception that the series "field coil" is a straight copper bar. It embodies the same astatic arrangement of elements, shielding of magnets, internal resistance, etc.

When ordering, state normal operating voltage of circuit.

100 to 105, 106 to 110
111 to 115, 116 to 120 Volts
2-wire

Cat. No.	Amp.	Price Each
58350	2000	\$550.00
58351	3000	600.00
58352	4000	650.00
58353	6000	750.00

200 to 210, 211 to 220,
221 to 230, 231, to 240 Volts
2-wire

Cat. No.	H.P.	Amp.	Price Each
58356	550	2000	\$580.00
58357	800	3000	630.00
58358	1100	4000	680.00
58359	1600	6000	780.00

500 to 550, 551 to
600 Volts
2-wire

Cat. No.	H.P.	Amp.	Price Each
58366	1300	2000	\$610.00
58367	2000	3000	660.00
58368	2600	4000	710.00
58369	4000	6000	810.00





G-E Type IP-5 Watthour Meters

Single-phase, Prepayment



Where the service to certain classes of consumers must be rendered under somewhat unfavorable conditions from the viewpoint of the usual method of metering, such for instance as transient or shifting populations involving frequent "cutting in" or "out" of service, reading, billing, collecting, etc., such cases may be metered more efficiently and conveniently through the use of the prepayment type of meter.

The Type IP-5 prepayment meter is made for this class of service and is arranged so that after the prepayment of one or more coins (25-cent piece) in the usual manner the consumer may receive energy up to the full amount for which payment has been made. The coin device permits prepayment of from one to twenty coins at a time. When the energy paid for has been used the meter automatically opens the line switch.

The mechanism is entirely mechanical in its operation. The element of the single-phase Type 1-14 meter is employed. Front connected, metal cover, dull black finish.

These meters may be used on circuits the voltage of which is not more than 10 per cent above or below the rated voltage of the meter.

When ordering meters for voltages outside of these limits the normal operating voltage must be specified.

Approximate shipping weight, one in a box, 31 pounds; two in a box, 57 pounds.

25-30 Cycles			40-133 Cycles		
Cat. No.	Amps.	Price Each	Cat. No.	Amps.	Price Each
199631	5	\$66.25	192840	5	\$66.25
199632	10	69.00	192841	10	69.00
199633	15	71.50	192842	15	71.50

220 Volts, 2-wire			220 Volts, 3-wire		
Cat. No.	Amps.	Price Each	Cat. No.	Amps.	Price Each
199634	5	\$68.25	192844	5	\$68.25
199635	10	71.00	192845	10	71.00
199636	15	73.50	192846	15	73.50

220 Volts, 3-wire			220 Volts, 3-wire		
Cat. No.	Amps.	Price Each	Cat. No.	Amps.	Price Each
199637	5	\$68.25	192848	5	\$68.25
199638	10	71.00	192849	10	71.00
199639	15	73.50	192850	15	73.50

When ordering, state cycles desired and the rate of charge per kilowatt-hour.

G-E Types IS-4 and IS-5 Watthour Meters

Single-phase, for Switchboard Service

The Types IS-4 and IS-5 meters, made expressly for switchboard service, are of strong and simple construction.

They possess the fundamental features of the Type I-14 worked into an attractive switchboard housing. Their electrical characteristics are, therefore, the same. They are back-connected, but in order to facilitate testing are equipped with a very convenient form of testing terminal so designed that access to the back of the panel is unnecessary in order to introduce testing instruments, or to cut the meter out of service. They are equipped with micrometer adjustments for full and light loads.



Type IS-4

The Type IS-4 is furnished with a cast metal case finished in dull black with the raised parts of polished copper.

The Type IS-5 is furnished with a glass cover as shown in the illustration the metal parts being finished in dull black and copper.



Type IS-5

G-E Type IS-4 Watthour Meters

Back-connected, Metal Cover.

Single-phase, Alternating Current, 25-133 Cycles, 2-wire

110 Volts			220 Volts		
Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
187698	5	\$50.00	187706	5	\$52.00
187699	10	53.00	187707	10	55.00
187700	15	56.00	187708	15	58.00
187701	25	60.00	187709	25	62.00
187702	50	68.00	187710	50	70.00
187703	75	72.50	187711	75	74.50
187704	100	75.50	187712	100	77.50
187705	150	79.00	187713	150	81.00
440 Volts			550 Volts		
Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
187714	5	62.00	187722	5	62.00
187715	10	65.00	187723	10	65.00
187716	15	68.00	187724	15	68.00
187717	25	72.00	187725	25	72.00
187718	50	79.50	187726	50	79.50
187719	75	84.50	187727	75	84.50
187720	100	88.00	187728	100	88.00
187721	150	91.00	187729	150	91.00

When ordering, state cycles desired.

For Use with Instrument Transformers

25-133 Cycles, 2-wire

Cat. No.	Amp.	Volts	Price Each	Cat. No.	Amp.	Volts	Price Each
187730	5	110	\$50.00	187731	5	220	\$52.00
187732	5	440	62.00	187733	5	550	62.00

Approximate shipping weight, all voltages: one in a box, 60 pounds; two in a box, 110 pounds.

G-E Type IS-5 Watthour Meters

Back-connected, Glass Cover

Single-phase, Alternating Current, 25-133 Cycles, 2-wire

110 Volts			220 Volts		
Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
199221	5	\$75.00	199229	5	\$77.00
199222	10	78.00	199230	10	80.00
199223	15	81.00	199231	15	83.00
199224	25	85.00	199232	25	87.00
199225	50	93.00	199233	50	95.00
199226	75	97.50	199234	75	99.50
199227	100	100.50	199235	100	102.50
199228	150	104.00	199236	150	106.00
440 Volts			550 Volts		
Cat. No.	Amp.	Price Each	Cat. No.	Amp.	Price Each
199237	5	87.00	199245	5	87.00
199238	10	90.00	199246	10	90.00
199239	15	93.00	199247	15	93.00
199240	25	97.00	199248	25	97.00
199241	50	104.50	199249	50	104.50
199242	75	109.50	199250	75	109.50
199243	100	113.00	199251	100	113.00
199244	150	116.00	199252	150	116.00

For Use with Instrument Transformers

25-133 Cycles, 2-wire

Cat. No.	Amp.	Volts	Price Each	Cat. No.	Amp.	Volts	Price Each
199253	5	110	\$75.00	199254	5	220	\$77.00
199255	5	440	87.00	199256	5	550	87.00

When ordering, state cycles desired.

Approximate shipping weight, all voltages: one in a box, 65 pounds; two in a box, 115 pounds.



Jewels and Pivots for Watthour Meters

Sapphire Jewels



No. 31320

Cat. No.	Description	Finish
31320	Removable Jewel with Fillister Head, for Meters with Single Aluminum Disk Earlier than Types C and I	Nickel
6672	For Meters with Single Copper Disk, Similar to No. 31320, Excepting that it has Heavier Spring	Brass



No. 39924

39924	Removable Jewel with Fillister Head, for Types I, C, IS-2, IS-3, D-3, DS-4 and DS-5 Meters	Brass
157465	Removable Jewel for Types I-14, D-6, IS-4, DS-6 and DS-7 Meters	"
105210	Removable Jewel with Fillister Head, for Type 1-10 Meters	"

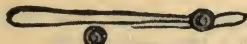
Pivots



6827	Pivot or Shaft End for all Jewels
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Prices upon application.

Meter Accessories



Four Strand Sealing Wire and Loose Lead

Cat. No.	Description	Price
1352255	Four Strand Sealing Wire 3½ in. long for Terminal Cover of 5 to 75 amp. 1-14 and D-6 Meters	per 1000 \$3.50
132632	Four Strand Sealing Wire, 6 in. long, per 1000	3.75
132633	" " " " 9 in. long, per 1000	4.00
1352256	" " " " 10½ in. long for Meter Cover of 1-14 and D-6 Meter	per 1000 4.25
132634	Four Strand Sealing Wire, 11 in. long	per 1000 4.25
1352700	Four Strand Sealing Wire, 13 in. long, for Terminal Cover of 100 to 300 amp. 1-14 Meter	per 1000 4.50
132635	Four Strand Sealing Wire, 15 in. long	per 1000 4.75
1352257	Four Strand Sealing Wire, 17 in. long, for Terminal Cover of 100 and 150 amp. D-6 Meters	per 1000 5.00
133620*	Lead for Sealing Wire	per 1000 3.00
259718	Pocket Meter Sealing Tool with Blank Dies	each 5.50
259719	Pocket Meter Sealing Tool, one Blank Die, and one Die Engraved with G-E Monogram	each 6.00
259720	Pocket Meter Sealing Tool, one Blank Die and one Die Engraved with one Plain Letter or one Numeral	each 6.00
259721	Pocket Meter Sealing Tool, one Die Engraved with G-E Monogram and one Die Engraved with one Plain Letter or One Numeral	each 6.50
259722	Pocket Meter Sealing Tool, both Dies Engraved with one Plain Letter or one Numeral	each 6.50
93164	Black Buckram Cloth Binder for Meter Reading Sheets	each 2.00
93165	Loose Leaf Sheets for Binder	per 100 .75

*Loose leads should be ordered when required.

Foot-candle Meters



The foot-candle meter is a small, self-contained instrument which measures illumination intensities in foot-candles. This unit is rapidly becoming recognized as the popular as well as the scientific measure of intensity in illumination, which makes the application practical. Technical knowledge is not required in the use of the meter because the adjustment is simple and determinations are readily made.

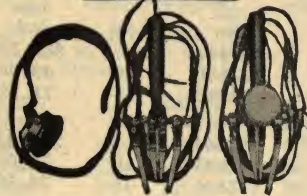
The foot-candle meter shows where increased intensities must be installed to get the desired results. It should be returned at least once every four months for recalibration.

Size In.	Meter Only	Wt., Lbs. Meter and Case	Shipping Complete	Price Each	Recalibration Charge
8x6x1½	3	4	7	\$25.00	\$1.00

Century Armature Testers



Instantly detects and exactly locates short circuits, open circuits, wrong connections, and grounds in armatures without unsoldering any of the lead wires from the commutator or disturbing the hoods. It saves time, labor, and materials and increases production. Nothing to get out of order or to wear out.



Can be operated in connection with either alternating or direct current lighting circuits, or with a battery when power circuits are not available. A hard rubber knob with knurled edge permits changing over from one kind of current to the other. It will make a complete test of any ordinary armature in less than two minutes. For power plants, manufacturers of motors and generators, industrial plants and mines using electric motor drive, electric railways, and commercial repair shops.

Price upon application.

Type L Matthews Woodpecker Telefaults



For use on telephone, telegraph, or signal. A simple self-contained instrument that will exactly locate water in cables, shorts of all kinds in cables, crosses, grounds, split pairs, in fact, everything except "opens." It only uses one dry cell battery, maximum voltage under 5 volts. The tone is like a woodpecker on a pole and does not "noise" up other working pairs, because of the inductive field created.

Can also be used as a tone test set, as a howler to make subscribers hang up receivers.

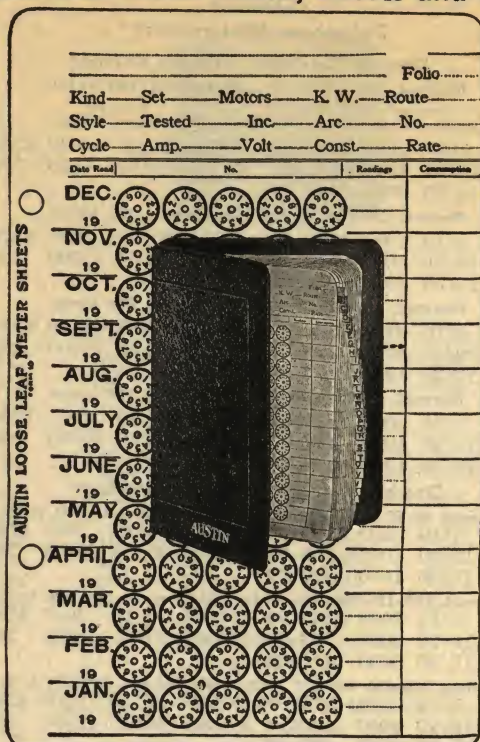
The Type L Matthews Woodpecker Telefault is held in a neat, strong case, and furnished with a carrying strap. The vibrator, battery, head phone and exploring coil are all contained in this box.

No batteries are furnished.

Shipping weights, Type L Telefaults complete, 8 pounds; extra exploring coils, 2 pounds; extra receivers, 1 pound.

Price, Type L Telefault Complete	each	\$132.00
" Extra Exploring Coils	"	30.00
" Receivers	"	8.00

Loose Leaf Meter Books, Sheets and Seals



Equipped with I-P adjustable nickel-plated rings which permit the book to be opened for insertion or removal of sheets at any point. Rigid cloth binding with leather backs and corners, and takes sheets $8\frac{1}{2} \times 5\frac{1}{2}$ inches. The pocket edition is flexible leather and takes sheets $5\frac{1}{2} \times 3\frac{1}{2}$ inches.

Price, No. 1 Binder Complete with 100 Sheets, Standard Size, 8½x5½ Inches	each	\$3.25
Price, No. 1 Binder Only Capacity 100 Sheets	"	2.50

Price, No. 1 Binder Only, Capacity 100 Sheets.. " 2.50
" " 2 " Complete with 200 Sheets Stand-

Complete with 200 Sheets, Standard Size, 8½x5½ Inches each **4.30**

Price, No. 2 Binder Only, Capacity 200 Sheets..	"	2.80
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Extra Sheets, for Nos. 1 and 2 Binders.....per 100	.75
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Linen Tabbed Indexes, Nos. 1 and 2 Binders. " set	1.10
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Price, No. 3 Binder Complete with 100 Sheets, Pocket

Size, 5 1/2 x 3 1/2 Inches.....	each	3.00
No. 3 Binder Only 150 Sheets Flexible Leather.....	each	2.50

No. 3 Binder Only, 150 Sheets, Flexible Leather. .each	2.50
Extra Sheets. for No. 3 Binder per 100	60

Extra Sheets, 10F No. 3 Binder.....	per 100	.60
Linen Tabbed Indexes No. 3 Binder Extra " set		85

Price 4-in. 4-Ply No. 30 Soft Tinned Seals..per 1000	4.00
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Price	1 lb.	1 lb.	1 lb.	1 lb.	50 lbs.	1 cwt.	per 1000
"	6 "	"	"	"	"	"	"
							4.50

" 8 "	"	"	"	"	"	"	1.50
"	"	"	"	"	"	"	5.00

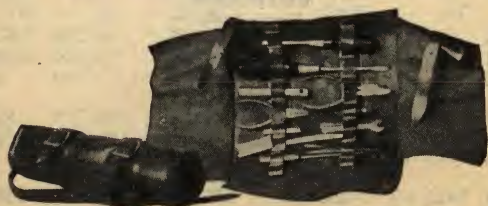
"	Pocket Sealing Tool with Blank Dies each	6.50
"	" " " " " 1 Blank Die each	1.00

“ “ “ “ “ 1 Blank Die and 1 Die
Engraved with Letter or Numeral _____ each 7 00

Engraved with Letter or Numeral	each	7.00
Price Pocket Sealing Tool with both Dies Engraved		

Price, Pocket Sealing Tool with both Dies Engraved with 1 Letter or 1 Numeral	each	7 50
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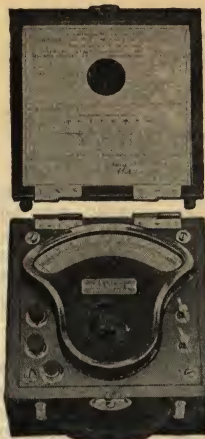
Watthour Meter Repair Kits



For meter testers and repairmen, and contains all the tools usually required for such work. All of the loops for holding the tools are adjustable, however, so that different tools may be added or substituted, as desired, to meet special conditions. The case is made of strong pliable black leather, specially selected, with retaining flaps of the same material and two leather binding straps.

Price, Repair Kit, Complete **139779-A**.....each **\$8.50**

Type P-3 G-E Portable Instruments



Type P-3 Portable Instrument

These instruments are of the highest grade and are recommended for laboratory and general testing purposes, where extreme accuracy is essential. They are magnetically damped and protected from stray fields. The voltmeters and wattmeters are constructed on the direct reading dynamometer principle and the ammeters on the principle of the well-known Thomson Inclined Coil. The instruments excel in mechanical construction, are neat in appearance, and very substantial. They are contained in neat carrying cases provided with removable hinged cover and snap lock. Although designed for alternating current work, they may be used on direct current by taking reverse readings.

Voltmeters

Cat. No.	Capacity Volts	Price Each	Cat. No.	Capacity Volts	Price Each
49447	150	\$120.00	*126198	75/150	\$130.00
49448	300	125.00	*126199	150/300	135.00
49449	600	130.00	*151272	300/750	140.00

*These voltmeters have double scales.

Ammeters

Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
49499	2	\$90.00	66594	100	\$105.00
49442	5	90.00	66595	150	110.00
49443	10	90.00	66596	200	110.00
49444	15	90.00	†66597	1.5/3	105.00
49445	20	95.00	†66598	5/10	105.00
49446	30	95.00	†66599	10/20	115.00
66591	40	100.00	†66600	15/30	115.00
66592	60	100.00	†66601	20/40	120.00
66593	80	105.00	†66602	30/60	120.00

†These ammeters have double scales. They have double windings arranged for series multiple circuits.

Single Phase Wattmeters

Single Current—Single Voltage

Normal, 100/125 Volts—Maximum, 150 Volts

Cat. No.	CAPACITY		Price Each	Cat. No.	CAPACITY		Price Each
	Amperes	Watts			Amperes	Watts	
49450	1.5	150	\$120.00	66568	40	4000	\$145.00
49451	3	300	120.00	66570	60	6000	155.00
49452	5	500	125.00	66572	80	8000	165.00
49453	10	1000	125.00	66574	100	10000	175.00
49454	15	1500	130.00	66576	150	15000	185.00
49455	20	2000	130.00	66578	200	20000	195.00
49456	30	3000	135.00				

Normal, 200/250 Volts—Maximum, 300 Volts

58417	1.5	300	\$125.00	66579	40	8000	\$150.00
58418	3	600	125.00	66580	60	12000	160.00
58419	5	1000	130.00	66581	80	16000	170.00
58420	10	2000	130.00	66582	100	20000	180.00
58421	15	3000	135.00	66583	150	30000	190.00
58422	20	4000	135.00	66584	200	40000	200.00
58423	30	6000	140.00				

Normal, 400/475 Volts—Maximum, 600 Volts

269869	1.5	600	\$130.00	269876	40	16000	\$155.00
269870	3	1200	130.00	269877	60	24000	165.00
269871	5	2000	135.00	269878	80	32000	175.00
269872	10	4000	135.00	269879	100	40000	185.00
269873	15	6000	140.00	269880	150	60000	195.00
269874	20	8000	140.00	269881	200	80000	205.00
269875	30	12000	145.00				

Normal, 500/600 Volts—Maximum, 750 Volts

58424	1.5	750	\$135.00	66585	40	20000	\$160.00
58425	3	1500	135.00	66586	60	30000	175.00
58426	5	2500	140.00	66587	80	40000	180.00
58427	10	5000	140.00	66588	100	50000	190.00
58428	15	7500	145.00	66589	150	75000	200.00
58429	20	10000	145.00	66590	200	100000	210.00
58430	30	15000	150.00				



Type P-3 G-E Portable Instruments

Continued

Single Phase Wattmeters

Single Current—Double Voltage

Normal, 50-62.5-100/125 Volts—Maximum, 75/150 Volts

Cat. No.	CAPACITY Amperes Watts	Price Each	Cat. No.	CAPACITY Amperes Watts	Price Each
260922	1.5 75	\$130.00	260928	40 2000	\$155.00
260923	3 150	130.00	260929	60 3000	165.00
126194	5 250	135.00	260930	80 4000	175.00
260924	10 500	135.00	260931	100 5000	185.00
260925	15 750	140.00	260932	150 7500	195.00
260926	20 1000	140.00	260933	200 10000	205.00
260927	30 1500	145.00			

Normal, 100-125/200-250 Volts, Maximum, 150/300 Volts

260934	1.5 150	\$135.00	260940	40 4000	\$160.00
260935	3 300	135.00	260941	60 6000	170.00
126195	5 500	140.00	260942	80 8000	180.00
260936	10 1000	140.00	260943	100 10000	190.00
260937	15 1500	145.00	260944	150 15000	200.00
260938	20 2000	145.00	260945	200 20000	210.00
260939	30 3000	150.00			

Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts

269882	1.5 300	\$140.00	269889	40 8000	\$165.00
269883	3 600	140.00	269890	60 12000	175.00
269884	5 1000	145.00	269891	80 16000	185.00
269885	10 2000	145.00	269892	100 20000	195.00
269886	15 3000	150.00	269893	150 30000	205.00
269887	20 4000	150.00	269894	200 40000	215.00
269888	30 6000	155.00			

Normal, 200-250/500-600 Volts—Maximum, 300/750 Volts

269895	1.5 300	\$145.00	269902	40 8000	\$170.00
269896	3 600	145.00	269903	60 12000	180.00
269897	5 1000	150.00	269904	80 16000	190.00
269898	10 2000	150.00	269905	100 20000	200.00
269899	15 3000	155.00	269906	150 30000	210.00
269900	20 4000	155.00	269907	200 40000	220.00
269901	30 6000	160.00			

Double Current—Single Voltage

Normal, 100/125 Volts—Maximum, 150 Volts

66532	1.5/3 150	\$135.00	66538	15/30 1500	\$155.00
66534	5/10 500	140.00	66540	20/40 2000	165.00
66536	10/20 1000	150.00	66542	30/60 3000	175.00

Normal, 200/250 Volts—Maximum, 300 Volts

66544	1.5/3 300	\$140.00	66550	15/30 3000	\$160.00
66546	5/10 1000	145.00	66552	20/40 4000	170.00
66548	10/20 2000	155.00	66554	30/60 6000	180.00

Normal, 400/475 Volts—Maximum, 600 Volts

269908	1.5/3 600	\$145.00	269911	15/30 6000	\$165.00
269909	5/10 2000	150.00	269912	20/40 8000	175.00
269910	10/20 4000	160.00	269913	30/60 12000	185.00

Normal, 500/600 Volts—Maximum, 750 Volts

66556	1.5/3 750	\$150.00	66562	15/30 7500	\$170.00
66558	5/10 2500	155.00	66564	20/40 10000	180.00
66560	10/20 5000	165.00	66566	30/60 15000	190.00

Double Current—Double Voltage

Normal, 50-62.5/100-125 Volts—Maximum, 75/150 Volts

260946	1.5/3 75	\$145.00	260948	15/30 750	\$165.00
126196	5/10 250	150.00	260949	20/40 1000	175.00
260947	10/20 500	160.00	260950	30/60 1500	185.00

Normal, 100-125/200-250 Volts—Maximum, 150/300 Volts

260951	1.5/3 150	\$150.00	260953	15/30 1500	\$170.00
126197	5/10 500	155.00	260954	20/40 2000	180.00
260952	10/20 1000	165.00	260955	30/60 3000	190.00

Normal, 200-250/400-475 Volts, Maximum, 300/600 Volts

269914	1.5/3 3000	\$155.00	269917	15/30 3000	\$175.00
269915	5/10 1000	160.00	269918	20/40 4000	185.00
269916	10/20 2000	170.00	269919	30/60 6000	195.00

Normal, 200-250/500-600 Volts—Maximum, 300/750 Volts

269920	1.5/3 300	\$160.00	269923	15/30 3000	\$180.00
269921	5/10 1000	165.00	269924	20/40 4000	190.00
269922	10/20 2000	175.00	269925	30/60 6000	200.00

Type P-3 G-E Portable Instruments

Continued

Polyphase Wattmeters

Double Current—Single Voltage

Normal, 100/125 Volts—Maximum, 150 Volts

Cat. No.	CAPACITY Amperes Watts	Price Each	Cat. No.	CAPACITY Amperes Watts	Price Each
60543	5/10 1000	\$235.00	60546	20/40 4000	\$265.00
60544	10/20 2000	245.00	60547	30/60 6000	275.00
60545	15/30 3000	255.00			

Normal, 200/250 Volts—Maximum, 300 Volts

60548	5/10 2000	\$240.00	60551	20/40 8000	\$270.00
60549	10/20 4000	250.00	60552	30/60 12000	280.00
60550	15/30 6000	260.00			

Normal, 400-475 Volts—Maximum, 600 Volts

269926	5/10 4000	\$245.00	269929	20/40 16000	\$275.00
269927	10/20 8000	255.00	269930	30/60 24000	285.00
269928	15/30 12000	265.00			

Normal, 500-600 Volts—Maximum, 750 Volts

60553	5/10 5000	\$250.00	60556	20/40 20000	\$280.00
60554	10/20 1000	260.00	60558	30/60 30000	290.00
60555	15/30 15000	270.00			

Double Current—Double Voltage

Normal, 50-62.5/100-125 Volts—Maximum, 75/150 Volts

260956	5/10 500	\$250.00	260959	20/40 2000	\$280.00
260957	10/20 1000	260.00	260960	30/60 3000	290.00
260958	15/30 1500	270.00			

Normal, 100-125/200-250 Volts—Maximum, 150/300 Volts

260961	5/10 1000	\$255.00	260964	20/40 4000	\$285.00
260962	10/20 2000	265.00	260965	30/60 6000	295.00
260963	15/30 3000	275.00			

Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts

269931	5/10 2000	\$260.00	269934	20/40 8000	\$290.00
269932	10/20 4000	270.00	269935	30/60 12000	300.00
269933	15/30 6000	280.00			

Normal, 200-250/500-600 Volts—Maximum, 300/750 Volts

269936	5/10 2000	\$265.00	269939	20/40 8000	\$295.00
269937	10/20 4000	275.00	269940	30/60 12000	305.00
269938	15/30 6000	285.00			

Type DP2 G-E Portable Instruments

Direct Current

Designed for laboratory and general testing purposes. Equipped with zero adjusting device. They are 8 inches square, 4 1/4 inches deep; weigh 7 3/4 pounds.

Ammeters are self-contained us to 30 amperes. Highest capacities cover milli-voltmeter with 200 milli-volt external portable shunts.



Ammeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
60239	5	\$70.00	60246	75	\$109.00
60240	10	70.00	60248	100	117.00
60241	15	72.00	60249	150	125.00
60242	20	74.00	60250	200	129.00
60243	30	76.00	60251	300	137.00
60244	50	103.00	60252	500	153.00

Voltmeters

Single Scale

60253	50	\$68.00	60256	300	\$75.00
60254	100	70.00	60257	500	80.00
60255	150	72.00	60258	750	85.00

Double Scale

66603	15/150	\$82.00	66606	150/750	\$95.00
66604	150/300	85.00	66608	300/600	95.00
66605	150/600	90.00			

Triple Scale

257139	5/15/150	\$95.00	257141	150/300/600	\$100.00
257140	10/30/300	98.00			

Mil-ammeters

60279	150	\$65.00	60282	1000	\$65.00
60280	300	65.00	60283	1500	65.00
60281	600	65.00			

Milli-voltmeters

60259	20	\$65.00	60261	100	\$65.00
60260	60	65.00	60262	200	65.00



Type P G-E Portable Instruments



Type P Wattmeter

Type P Voltmeters

Cat. No.	Cap. Volts	Price Each	Cat. No.	Cap. Volts	Price Each
3335	65	\$60.00	3344	300	\$65.00
3336	130	60.00	3337	600	70.00

Type P Ammeters

Cat. No.	Cap. Amps	Price Each	Cat. No.	Cap. Amps	Price Each
6461	2	\$50.00	40685	40	\$52.00
28789	5	50.00	40686	60	52.00
6456	10	50.00	40687	80	55.00
3332	15	50.00	6459	100	55.00
40683	20	52.00	40688	150	55.00
40684	30	52.00	6460	200	55.00

Type P Wattmeters 100-125 Volts

Cat. No.	CAPACITY Amperes	Watts	Price Each	Cat. No.	CAPACITY Amperes	Watts	Price Each
7986	1.5	150	\$75.00	40690	30	3000	\$75.00
7981	3	300	75.00	40691	40	4000	110.00
30527	5	500	75.00	40692	60	6000	110.00
28860	10	1000	75.00	40693	80	8000	115.00
7982	15	1500	75.00	8093	100	10000	115.00
40689	20	2000	75.00	8094	150	15000	120.00

G-E Pocket Instruments



Type O



Type OS

Pocket Ammeters

Type O, Front Connected

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
112402	2	\$25.00	112406	20	\$25.00
112403	5	25.00	112407	30	25.00
112404	10	25.00	112408	40	30.00
112405	15	25.00	112409	60	30.00

Type OS, Back Connected

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
7975	2	\$25.00	40695	30	\$25.00
28790	5	25.00	40696	40	30.00
7976	10	25.00	40697	60	30.00
37901	15	25.00	40698	80	30.00
40694	20	25.00	33742	100	30.00

Pocket Voltmeters

Type O, Front Connected

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
112410	75	\$30.00	112412	300	\$35.00
112411	150	30.00			

Type OS, Back Connected

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
7984	75	\$30.00	37942	300	\$35.00
7985	150	30.00			

The covers of front connected instruments are finished in black oxide; those of back connected instruments in dull black. The bases of both are polished copper.

These may be used upon either direct or alternating current circuits.

Approximate shipping weight, 8 pounds.

Form 3 G-E Portable Multipliers

For Portable Voltmeters



Ratio	Instrument	Capacity, Volts Instrument and Multiplier	Approx. Ship. Wt., Lbs.	Type P Cat. No.	Price Each	Type P-8 Cat. No.	Price Each
2 to 1	130	260	15	257164	\$25		
4 " 1	130	520	15	257165	30		
5 " 1	130	650	15	257166	35		
2 " 1	150	300	15			257170	\$25
4 " 1	150	600	15			257171	30
5 " 1	150	750	15			257172	35

Ratio	Instrument	Capacity, Volts Instrument and Multiplier	Approx. Ship. Wt., Lbs.	Type P-3 Cat. No.	Price Each	Type P-2 Cat. No.	Price Each
2 to 1	150	300	15	257176	\$25	257191	\$25
4 " 1	150	600	15	257177	30	257192	30
5 " 1	150	750	15	257178	35	257193	35
10 " 1	150	1500	15	257179	60	257194	60
15 " 1	150	2250	25			257195	75
20 " 1	150	3000	25			257196	75
2/5 " 1	150	300/750	25			257197	40

For Portable Wattmeters

Ratio	Instrument	Capacity, Volts Instrument and Multiplier	Approx. Ship. Wt., Lbs.	Type P Cat. No.	Price Each	Type P-8 Cat. No.	Price Each
2 to 1	100-125	200-250	15	257167	\$25		
4 " 1	100-125	400-500	15	257168	30		
5 " 1	100-125	500-625	15	257169	35		
2 " 1	100-150	200-250	15			257173	\$25
4 " 1	100-150	400-600	15			257174	30
5 " 1	100-150	500-750	15			257175	35

Ratio	Instrument	Capacity, Volts Instrument and Multiplier	Approx. Ship. Wt., Lbs.	Type P-3 SINGLE-PHASE Cat. No.	Price Each	Type P-3 POLYPHASE Cat. No.	Price Each
2 to 1	100-125	200-250	15	257181	\$25	257186	\$35
4 " 1	100-125	400-500	15	257182	30	257187	40
5 " 1	100-125	500-625	15	257183	35	257188	45
2/4 " 1	100-125	200/250/400/500	15	257184	35	257189	45
2/5 " 1	100-125	200/250/500/625	15	257185	40	257190	50

Prices of multipliers of other ratios furnished on request.

In ordering multipliers for instruments the ratios desired should be given together with the serial number of the instrument with which the multiplier is to be used.

In order that the portable voltmeters and wattmeters may be used on circuits of higher voltage than that for which they are wound, a line of potential multipliers has been designed.

The multipliers are mounted in a metal case with an aluminum base and perforated metal cover. The resistance wire is wound on mica cards which are mounted on the base so that they are well insulated.



Type P-8 G-E Portable Instruments



Type P-8 Ammeter

The Type P-8 line has been extended and the wattmeter and ammeter are now offered in the same size case. The wattmeter is of the dynamometer type similar to the voltmeter, the ammeter is iron vane type, but shielded and dead-beat and for this reason much superior to the Type P.

The ammeters and wattmeters are only furnished for series current capacity up to and including 20 amperes. The wattmeter is single-phase and can be furnished with double voltage potential circuit when desired.

The case of the Type P-8 forms the carrying case, the window over the scale plate being set in the top cover. Case is of mahogany and equipped with leather carrying handle.

The voltmeters and wattmeters for 600 volts have a slightly larger case, the resistance compartment being enlarged to take care of the additional resistance.

Type P-8 Ammeters

Cat. No.	Cap. Amps.	Price Each	Cat. No.	Cap. Amps.	Price Each
197232	2	\$50.00	197235	15	\$55.00
197233	5	50.00	197236	20	55.00
197234	10	55.00	.....	..	.....

Type P-8 Voltmeters

A small dynamometer type for voltmeter, for general testing. Outside dimensions are approximately $4\frac{3}{4} \times 4\frac{3}{8} \times 2\frac{5}{8}$ inches and the weight a little less than 2 pounds.

Cat. No.	Cap. Volts	Price Each	Cat. No.	Cap. Volts	Price Each
157706	7.5	\$60.00	157712	7.5-15	\$65.00
157707	15	60.00	157713	15-30	65.00
157708	25	60.00	157714	25-50	65.00
157709	50	60.00	157715	75-150	65.00
157710	150	60.00	157021	150-300	70.00
157711	300	65.00	209355	300-750	85.00
209354	750	80.00	209875	150-750	85.00

Type P-8 Wattmeters

Normal, 100/125 Volts—Maximum, 150 Volts			Normal, 200/250 Volts—Maximum, 300 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
197208	1.5	\$75.00	197211	10	\$75.00
197209	3	75.00	197212	15	80.00
197210	5	75.00	197213	20	80.00

Normal, 400/475 Volts—Maximum, 600 Volts			Normal, 500/600 Volts—Maximum, 750 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
197214	1.5	\$80.00	197217	10	\$80.00
197215	3	80.00	197218	15	85.00
197216	5	80.00	197219	20	85.00

Normal, 50-62.5 100-125 Volts—Maximum, 75/150 Volts			Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
269818	1.5	\$85.00	269821	10	\$85.00
269819	3	85.00	269822	15	90.00
269820	5	85.00	269823	20	90.00

Normal, 50-62.5 100-125 Volts—Maximum, 75/150 Volts			Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
209342	1.5	\$90.00	209345	10	\$95.00
209343	3	90.00	209346	15	100.00
209344	5	95.00	209347	20	100.00

Normal, 100-125/200-250 Volts—Maximum, 150/300 Volts			Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
197220	1.5	\$80.00	197223	10	\$80.00
197221	3	80.00	197224	15	85.00
197222	5	80.00	197225	20	85.00

Normal, 100-125/200-250 Volts—Maximum, 150/300 Volts			Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
197226	1.5	\$85.00	197229	10	\$85.00
197227	3	85.00	197230	15	90.00
197228	5	85.00	197231	20	90.00

Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts			Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
209348	1.5	\$100.00	209351	10	\$100.00
209349	3	100.00	209352	15	110.00
209350	5	100.00	209353	20	110.00

Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts			Normal, 200-250/400-475 Volts—Maximum, 300/600 Volts		
Cat. No.	Capacity Amps	Price Each	Cat. No.	Capacity Amps	Price Each
269824	1.5	\$115.00	269827	10	\$115.00
269825	3	115.00	269828	15	125.00
269826	5	115.00	269829	20	125.00

Type D-12 G-E Miniature Instruments

Direct Current



Voltmeter

Type D-12 instruments have small fan shaped cases with scales about 3 inches long. These ammeters and voltmeters are listed for small panel work and for installations where both ammeter and voltmeter are wanted for separate mounting.

The element is a small, high-grade D'Arsonval movement of very robust construction, which has given very satisfactory results on electric vehicles in the combined voltammeter type. The case is arranged for supporting from the front by two small ears as shown in illustration. The terminals are flexible leads coming through a bushing at back of case.

Ammeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
164628	10	\$38.00	164634	100	\$40.00
164629	20	38.00	164635	200	42.00
164630	30	38.00	164636	300	43.00
164631	40	39.00	164637	400	44.00
164632	60	39.00	164638	500	45.00
164633	80	39.00	.....	...	.....

Numbers include external 120-millivolt shunt and five-foot leads.

Voltmeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
164639	10	\$35.00	164642	75	\$35.00
164640	25	35.00	164643	150	36.00
164641	50	35.00	.....	...	.....

Type DM G-E Miniature Instruments

Direct Current



Ammeter

These small direct current ammeters and voltmeters are designed for small panels, battery charging devices, automobiles and motor boat application. The construction is a novel application of the D'Arsonval permanent magnet type. Ammeters are made self-contained up to and including 40 amperes; voltmeters up to and including 150 volts. Ammeters with external shunts are furnished up to 150 amperes. All instruments are back

connected with one set of studs for both mounting and terminals. All instruments are equipped with a zero adjusting device operated from the outside of the case. They can be furnished with a zero center scale when so ordered.

The Type DM instruments are approximately $2\frac{1}{2}$ inches in diameter and have a scale approximately $1\frac{1}{8}$ inches long.

Ammeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
196212	10	\$12.00	196217	60	\$16.00
196213	15	12.00	196218	80	16.00
196214	20	12.00	196219	120	17.00
196215	30	12.00	196220	150	19.00
196216	40	12.00	.....	...	.....

Voltmeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
196222	10	\$12.00	196226	75	\$13.00
196223	15	12.00	196227	120	14.00
196224	25	12.00	196228	150	14.00
196225	50	13.00	.....	...	.....

Ammeters above 40 amperes include external shunt and leads; lower capacities have internal shunt.



G-E Portable Potential Transformers



Type E-4

Portable potential transformers in wooden carrying cases can be furnished in any desired capacity, with single and double primary and secondary windings when required. The transformers have windings similar to the standard switch-board transformers of corresponding rating. Ratio and phase angle curves included in price of transformers.

Type E-4

Cat. No.	Cycles	Watts	VOLTAGE		Price Each
			Primary	Secondary	
151819	25	50	2200	110	\$85.00
151820	60	50	2200	110	75.00
151821	60	200	440-220	110	80.00
154002	60	200	2200	110	85.00

Type E-6

171546	60	25	440-220	110	\$65.00
171547	60	25	440	110	60.00
171548	60	25	550	110	60.00
171549	60	25	1100-2200	110	70.00
171550	60	25	2200	110	65.00
171541	25	25	440-220	110	75.00
171542	25	25	440	110	70.00
171543	25	25	550	110	70.00
171544	25	25	1100-2200	110	80.00
171545	25	25	2200	110	75.00

G-E Type S-2 Railway Signal
D. C. Volt-ammeters

In testing direct current railway signal apparatus and doing similar work on telephone and telegraph circuits, an instrument of the moving coil, permanent magnet type is necessary if reliable results are to be obtained. The permanent magnet instrument also measures the average value of a pulsating direct current, which is the value generally required for storage battery work.

The G-E Type S-2 volt-ammeters are of the permanent magnet, D'Arsonval type with connections so arranged that either current or potential can be measured. The standard instruments are arranged for six capacities or combinations so that three voltage ranges and three

current ranges can be obtained.

The scale is approximately $2\frac{1}{4}$ inches long and is doubly marked with a scale having red and black figures so that the different capacities can be read directly or by using even multipliers.

The fluctuations of the pointer are damped by Foucault currents set up in the aluminum ring on which the armature winding is mounted.

The terminals are furnished with one set of posts marked for polarity and a small switch with index. To use the instrument as a voltmeter, the switch handle is set to the desired range and the instrument connected in circuit. Contained in polished mahogany cases, the outside dimensions of which are $5\frac{3}{4} \times 3\frac{3}{4} \times 2\frac{1}{4}$ inches. Approximate shipping weight, 15 pounds.

Cat. No.	Volts	CAPACITY		Price Each
		Amperes	Mil-amperes	
113982	150, 15, 1.5	15, 1.5	150	\$70.00
113983	150, 30, 3	30, 3	300	70.00

G-E Type H-2 Edgewise Instruments



The Thomson Horizontal Edgewise Instruments, Type H-2, have for years been recognized as the standard for alternating current service.

A complete line of instruments is made consisting of ammeters, voltmeters, single-phase wattmeters, polyphase wattmeters, frequency indicators and power factor indicators. All horizontal edgewise instruments are of uniform size, thus presenting a pleasing appearance when installed. While primarily designed for alternating current service the voltmeters, ammeters and wattmeters can be used with good results on direct current. Orders for instruments intended for use with transformers must always specify the frequency of the circuit.

Ammeters

Cat. No.	Capacity Amperes	Price Each	Cat. No.	Capacity Amperes	Price Each
28776	5	\$60.00	40637	60	\$60.00
51007	10	60.00	40638	80	60.00
51140	15	60.00	51012	100	65.00
40634	20	60.00	51013	150	65.00
40635	30	60.00	51014	200	65.00
40636	40	60.00	40639	300	85.00

Voltmeters

Cat. No.	Capacity Volts	Price Each	Cat. No.	Capacity Volts	Price Each
51020	175	\$75.00	40640	500	\$80.00
51021	350	75.00	51022	750	80.00

Single-phase Wattmeters

100-125 Volts

Cat. No.	CAPACITY Amps.	Kws.	Price Each	Cat. No.	CAPACITY Amps.	Kws.	Price Each
28778	5	.5	\$90.00	40644	60	6	\$90.00
28784	10	1	90.00	40645	80	8	100.00
51142	15	1.5	90.00	51025	100	10	100.00
40641	20	2	90.00	51026	150	15	100.00
40642	30	3	90.00	51027	200	20	100.00
40643	40	4	90.00	.....	.....	.....	.....

200-250 Volts

28780	5	1	\$100.00	40649	60	12	\$100.00
28786	10	2	100.00	40650	80	16	110.00
51144	15	3	100.00	51030	100	20	110.00
40646	20	4	100.00	51031	150	30	110.00
40647	30	6	100.00	51032	200	40	110.00
40648	40	8	100.00	.....	.....	.....	.....

500-600 Volts

28782	5	2.5	\$110.00	40654	60	30	\$110.00
28788	10	5	110.00	40655	80	40	120.00
51146	15	7.5	110.00	51035	100	50	120.00
40651	20	10	110.00	51036	150	75	120.00
40652	30	15	110.00	51037	200	100	120.00
40653	40	20	110.00	.....	.....	.....	.....

G-E Type H-2 Edgewise Instruments

Polyphase Wattmeters

110-125 Volts

Cat. No.	CAPACITY Amps.	Kws.	Price Each	Cat. No.	CAPACITY Amps.	Kws.	Price Each
31808	5	1	\$125.00	40657	30	6	\$125.00
31809	10	2	125.00	40658	40	8	125.00
31810	15	3	125.00	40659	60	12	125.00
40656	20	4	125.00	.....	.....	.....	.....

200-250 Volts

31813	5	2	\$135.00	40661	30	12	\$135.00
31814	10	4	135.00	40662	40	16	135.00
31815	15	6	135.00	40663	60	24	135.00
40660	20	8	135.00	.....	.....	.....	.....

500-600 Volts

31818	5	5	\$145.00	40665	30	30	\$145.00
31819	10	10	145.00	40666	40	40	145.00
31820	15	15	145.00	40667	60	60	145.00
40664	20	20	145.00	.....	.....	.....	.....



G-E Frequency Indicators Resistance Reactance Type-H4 100-125 Volts

Cat. No.	Frequency in Cycles	Price Each	Cat. No.	Frequency in Cycles	Price Each
51128	25	\$100.00	51131	125	\$100.00
51129	40	100.00	51132	133	100.00
51130	60	100.00

Tuned Circuit Type-H3 110 Volts

136263	25	\$180.00	136265	60	\$180.00
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Power Factor Indicators for Balanced Systems 100-125 Volts

CATALOGUE NUMBERS					
Cap. 3-phase Amps. 3-wire	2-phase 3-wire	2-phase 4-wire	3-phase 4-wire or 6-wire	Scale Marking Lag-Lead	Price Each
5 23697	27513	23784	218746	0.60-1.00-0.60	\$90.00
5 218743	218748	218749	.....	0.50-1.00-0.50	100.00
5 218742	.....	.....	.....	0.25-1.00-0.25	100.00
5 218750	218751	.....	.....	0.25-1.00-0.90	100.00
5 218744	.....	.....	.....	0.80-1.00-0.80	100.00
5 218745	.....	.....	218747	0.90-1.00-0.90	100.00

G-E Round Pattern Switchboard Instruments

Type AR Alternating Current; Type DR Direct Current



Type AR Single-phase

For all classes of service where a medium size instrument of the round pattern is desired.

Type AR G-E Switchboard Instruments Ammeters

Cat. No.	Cap. Shipping Amps. Wt. Lbs.	Price Each	Cat. No.	Cap. Shipping Amps. Wt. Lbs.	Price Each
246050	5 11	\$50.00	246052	15 11	\$50.00
246051	10 11	50.00	246053	20 11	50.00

Current transformer required for higher current range.

Voltmeters

Cat. No.	Cap. Shipping Volts Wt. Lbs.	Price Each	Cat. No.	Cap. Shipping Volts Wt. Lbs.	Price Each
246054	175 11	\$60.00	246056	500 11	\$60.00
246055	350 11	60.00	246057	750 11	60.00

Single-phase Wattmeters

100-125 Volts					200-250 Volts				
Cat. No.	Amps.	Kws.	Shp. Wt. Lbs.	Price Each	Cat. No.	Amps.	Kws.	Shp. Wt. Lbs.	Price Each
246018	5	0.5	12	\$75.00	246022	5	1.0	12	\$85.00
246019	10	1.0	12	75.00	246023	10	2.0	12	85.00
246020	15	1.5	12	75.00	246024	15	3.0	12	85.00
246021	20	2.0	12	75.00	246025	20	4.0	12	85.00
400-450 Volts					500-600 Volts				
246026	5	2.0	12	\$90.00	246030	5	2.5	12	\$95.00
246027	10	4.0	12	90.00	246031	10	5.0	12	95.00
246028	15	6.0	12	90.00	246032	15	7.5	12	95.00
246029	20	8.0	12	90.00	246033	20	10.0	12	95.00

Single-phase wattmeters for use on circuits of more than 20 amperes or 1150 volts require current transformers. On circuits having potential in excess of 650 volts potential transformers are required. Orders for instruments intended for use with transformers must specify frequency of circuit.

G-E Type AR Polyphase Wattmeters

3-phase 3-wire; 2-phase 3-wire and 2-phase 4-wire Circuits

100-125 Volts					200-250 Volts				
Cat. No.	Amps.	Kws.	Shp. Wt. Lbs.	Price Each	Cat. No.	Amps.	Kws.	Shp. Wt. Lbs.	Price Each
246034	5	1	14	\$105.00	246038	5	2	14	\$115.00
246035	10	2	14	105.00	246039	10	4	14	115.00
246036	15	3	14	105.00	246040	15	6	14	115.00
246037	20	4	14	105.00	246041	20	8	14	115.00
400-450 Volts					500-600 Volts				
246042	5	4	14	\$120.00	246046	5	5	14	\$125.00
246043	10	8	14	120.00	246047	10	10	14	125.00
246044	15	12	14	120.00	246048	15	15	14	125.00
246045	20	16	14	120.00	246049	20	20	14	125.00

Polyphase wattmeters for use on circuits of more than 20 amperes or 650 volts require current transformers. On currents having potential in excess of 650 volts, potential transformers are required.

Orders for instruments intended for use with transformers must always specify the frequency of the circuit.

Wattmeters for 4-wire 3-phase circuits can be supplied for \$10.00 list additional.

G-E Type AR Power Factor Indicators For Balanced Systems

100-125 Volts—Capacity, 5 Amperes

CATALOGUE NUMBERS					
3-phase 3-wire	2-phase 3-wire	2-phase 4-wire	3-phase 4-wire or 6-wire	*SCALE MARKING Lag-Lead	Shp. Wt. Lbs. Price Each
246058	246063	246068	246071	0.60-1.00-0.60	12 \$75.00
246059	246064	246069	.....	0.50-1.00-0.50	12 80.00
246060	.....	.....	.....	0.25-1.00-0.25	12 80.00
.....	246065	246070	.....	0.25-1.00-0.90	12 80.00
246061	246066	.....	.....	0.80-1.00-0.80	12 80.00
246062	246067	.....	246072	0.90-1.00-0.90	12 80.00

*Lagging scale is at left; leading at right.

When desired power factor indicators can be supplied self contained in all the voltage and current capacities that are listed for the polyphase wattmeters. The list prices of 10, 15, or 20-ampere indicators are the same as for the 5-ampere indicators.

G-E Type AR Frequency Indicators 100-125 Volts

REACTANCE-RESISTANCE TYPE					TUNED CIRCUIT TYPE				
Cat. No.	Frequency in Cycles	Shp. Wt. Lbs.	Price Each		Cat. No.	Frequency in Cycles	Shp. Wt. Lbs.	Price Each	
246073	25	50	\$85.00		246078	25	55	\$165.00	
246074	40	50	85.00		246619	40	55	165.00	
246618	50	50	85.00		246620	50	55	165.00	
246075	60	40	85.00		246079	60	50	165.00	

G-E Type DR D.C. Ammeters

Cat. No.	Cap. Amps.	Ship. Wt. Lbs.	Price Each	Cat. No.	Cap. Amps.	Ship. Wt. Lbs.	Price Each
246080	5	12	\$44.00	246090	200	15	\$50.00
246081	10	12	44.00	246091	300	16	51.00
246082	15	12	44.00	246092	400	17	52.00
246083	20	12	44.00	246093	600	18	54.00
246084	30	12	44.00	246094	800	18	58.00
246085	40	12	45.00	246095	1000	21	62.00
246086	60	12	46.00	246096	1500	28	69.00
246087	80	15	47.00	246097	2000	33	79.00
246088	100	15	48.00	246098	3000	42	89.00
246089	150	15	49.00				

Ammeters in capacities up to and including 60 amperes are supplied self-contained; larger capacities have external shunts.

G-E Type DR D.C. Voltmeters

Cat. No.	Cap. Shipping Volts Wt. Lbs.	Price Each	Cat. No.	Cap. Shipping Volts Wt. Lbs.	Price Each
246099	150	12 \$50.00	246101	500	12 \$60.00
246100	300	12 55.00	246102	750	12 65.00



Type R-6 G-E Switchboard Instruments

Direct or Alternating Current



The measuring element of Type R-6 instruments is thoroughly protected from the disturbing influences of stray magnetic fields by a laminated soft iron shield and a cast iron case. The instruments can thus be placed close to each other without danger of mutual interference, a feature of the highest importance on crowded switchboards.

Type R-6 instruments are made in back connected form only, and are provided with connection studs, which also serve to secure the instrument to the switchboard.

Ammeters

Instruments for alternating current circuits in excess of 2300 volts will be furnished with current transformers. It is recommended that current transformers be used with all ammeters on circuits of more than 750 volts, as a safeguard to the switchboard attendant.

Ammeters exceeding 200 amperes capacity are not insulated for use on circuits above 650 volts.

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
35756	5	\$30.00	35764	100	\$35.00
35757	10	30.00	35765	150	35.00
35758	15	30.00	35766	200	35.00
35759	20	30.00	125353	300	55.00
35760	30	30.00	125354	400	60.00
35761	40	30.00	151810	500	63.00
35762	60	35.00	151811	600	65.00
35763	80	35.00	.....	...	.....

Voltmeters

Type R-6 voltmeters are made in capacities up to and including 750 volts, alternating or direct current, and may be used in connection with potential transformers on alternating current circuits of any higher voltage. When ordered with potential transformers the scales are marked in secondary volts, unless the order calls for marking in primary volts. When instruments are intended for use with transformers the frequency of the circuit must always be given in order that the proper transformers may be supplied.

The resistance is external in all capacities above 175 volts and is secured in a cage suitable for mounting on the back of the switchboard.

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
35776	175	\$35.00	35778	500	\$45.00
35777	350	40.00	35779	750	50.00

Voltmeters on Brackets

41182	175	\$54.00	41185	350	\$53.50
41183	350	59.00	58304	175	57.00
41184	175	48.50	58305	350	62.00

Nos. 41182 and 41183 are pivoted; the rest are swinging brackets.

The standard finish is dull black with raised portions of polished copper.

Type RF G-E Switchboard Instruments

Direct or Alternating Current



Type RF ammeters and voltmeters are inclined coil instruments with iron armatures. The new features in the design of these instruments consist of the flush type case and all glass front and air damping, which is very effective. The containing case is of drawn steel.

In the internal construction of these instruments a die cast frame is used to carry the armature and support the coil which forms the winding. This die cast frame also carries the damping chamber.

Ammeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
152454	5	\$25.00	152460	60	\$30.00
152455	10	25.00	152461	80	30.00
152456	15	25.00	152462	100	35.00
152457	20	25.00	152463	150	35.00
152458	30	30.00	152464	200	35.00
152459	40	30.00	.....	...	.....

Voltmeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
152450	175	\$30.00	152452	500	\$40.00
152451	350	35.00	152453	750	45.00

Numbers and price of voltmeters includes external resistance box.

Type DE G-E Switchboard Instruments

Direct Current

Type DE ammeters and voltmeters are of the D'Arsonval permanent magnet type.

The case is arranged for flush mounting and the ammeters are furnished with external shunts for all capacities. The element is also of different design, being smaller.

The construction follows the conventional D'Arsonval design, the small element in this instrument being particularly robust and necessarily of small design in order to assemble in the case which is approximately 6 1/4 inches in diameter front, with 4 1/2-inch diameter body, for going through the switchboard.



Ammeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
152436	10	\$35.00	152443	300	\$41.00
152437	20	35.00	152444	400	42.00
152438	40	36.00	152445	600	44.00
152439	60	37.00	152446	800	48.00
152440	80	38.00	152447	1000	53.00
152441	100	39.00	152448	2000	62.00
152442	200	40.00	152449	3000	75.00

Number and price include external shunts for all capacities.

Voltmeters

Cat. No.	Capacity	Price Each	Cat. No.	Capacity	Price Each
152433	150	\$30.00	152435	750	\$45.00
152434	300	35.00	.....	...	.....

150-volt instruments are self-contained. Number and price of 300 and 750-volt instruments include external resistance box.



G-E Current Transformers

Types W and K

G-E Indoor Current Transformers

Oil Types

25 to 133 Cycles—2500 to 70000 Volts

Type K-9

For Circuits Not Exceeding 27000 Volts

Cat. No.	Cap. Primary Amps.	Ratio	No. of Gals. Oil	Approx. Ship. Wt., Lbs. without Oil	Price Each
260727	5-10	1:1—2:1	22	318	\$270.00
260728	10-20	2:1—4:1	22	318	270.00
260729	12.5-25	2.5:1—5:1	22	318	270.00
260730	15-30	3:1—6:1	22	318	270.00
260731	20-40	4:1—8:1	22	318	270.00
260732	25-50	5:1—10:1	22	318	270.00
260733	30-60	6:1—12:1	22	318	270.00
260734	40-80	8:1—16:1	22	318	270.00
260735	60-120	12:1—24:1	22	318	270.00
260736	80-160	16:1—32:1	22	318	270.00
260737	100-200	20:1—40:1	22	318	270.00
260738	150-300	30:1—60:1	22	318	270.00
260739	200-400	40:1—80:1	22	318	270.00
260740	300-600	60:1—120:1	22	318	270.00
260741	400-800	80:1—160:1	22	318	270.00

Type K-11

For Circuits Not Exceeding 45000 Volts

260742	5-10	1:1—2:1	28	370	\$345.00
260743	10-20	2:1—4:1	28	370	345.00
260744	12.5-25	2.5:1—5:1	28	370	345.00
260745	15-30	3:1—6:1	28	370	345.00
260746	20-40	4:1—8:1	28	370	345.00
260747	25-50	5:1—10:1	28	370	345.00
260748	30-60	6:1—12:1	28	370	345.00
260749	40-80	8:1—16:1	28	370	345.00
260750	60-120	12:1—24:1	28	370	345.00
260751	80-160	16:1—32:1	28	370	345.00
260752	100-200	20:1—40:1	28	370	345.00
260753	150-300	30:1—60:1	28	370	345.00
260754	200-400	40:1—80:1	28	370	345.00
260755	300-600	60:1—120:1	28	370	345.00
260756	400-800	80:1—160:1	28	370	345.00

Type K-13

For Circuits Not Exceeding 70000 Volts

260757	5-10	1:1—2:1	80	910	\$820.00
260758	10-20	2:1—4:1	80	910	820.00
260759	12.5-25	2.5:1—5:1	80	910	820.00
260760	15-30	3:1—6:1	80	910	820.00
260761	20-40	4:1—8:1	80	910	820.00
260762	25-50	5:1—10:1	80	910	820.00
260763	30-60	6:1—12:1	80	910	820.00
260764	40-80	8:1—16:1	80	910	820.00
260765	60-120	12:1—24:1	80	910	820.00
260766	80-160	16:1—32:1	80	910	820.00
260767	100-200	20:1—40:1	80	910	820.00
260768	150-300	30:1—60:1	80	910	820.00
260769	200-400	40:1—80:1	80	910	820.00
260770	300-600	60:1—120:1	80	910	820.00
260771	400-800	80:1—160:1	80	910	820.00

Type WM-12

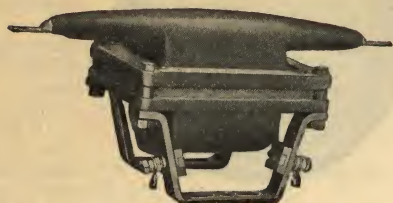
Three-wire—Dry Type

For Circuits Not Exceeding 2500 Volts

Cat. No.	Cap. Primary Amps.	Ratio	Approx. Ship. Wt., Lbs.	Price Each
259875	5-5	1:1	50	\$40.00
259876	10-10	2:1	50	40.00
259877	15-15	3:1	50	40.00
259878	25-25	5:1	50	41.00
259879	50-50	10:1	50	42.00
259880	75-75	15:1	50	43.00
259881	100-100	20:1	50	44.00
259882	150-150	30:1	55	46.00
259883	200-200	40:1	55	48.00
259884	250-250	50:1	55	50.00
259885	300-300	60:1	55	52.00
259886	400-400	80:1	55	55.00
259887	600-600	120:1	55	65.00
259888	800-800	160:1	60	70.00



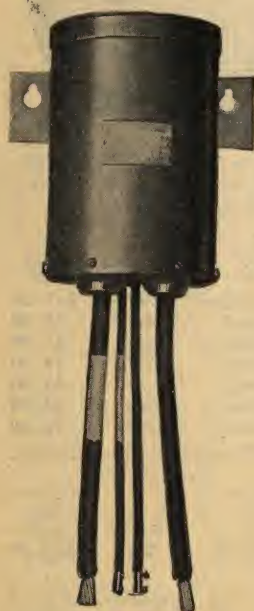
Outdoor Type K-61



Indoor Type W-12



Indoor Type K-9



Outdoor Type W-16

Current transformers are used in connection with meters, instruments and other switchboard appliances where it is necessary to increase their ampere capacity, or to insulate them from the line potential.

Since current transformers are connected directly in series with the line, if not properly insulated they produce a weak point in the line and if failure results the entire system may be tied up with serious losses. Insulation and mechanical strength are therefore extremely important.

If the transformers are inaccurate, the meters and instruments to which they are connected are affected accordingly.

It is evident, therefore, that current transformers are of extreme importance and should be selected with great care.



G-E Outdoor Current Transformers

Compound-filled

25-133 Cycles—4500 to 70000 Volts

Type W-16

For Circuits Not Exceeding 4500 Volts

Cat. No.	Amps.	Ratio	Approx. Net Wt. Lbs.	Price Each
259840	5	1:1	35	\$65.00
259841	10	2:1	35	65.00
259843	15	3:1	35	65.00
259844	20	4:1	35	65.00
259845	25	5:1	35	65.00
259846	30	6:1	35	65.00
259847	40	8:1	35	65.00
259848	50	10:1	35	65.00
259849	60	12:1	35	70.00
259850	80	16:1	35	70.00
259851	100	20:1	35	70.00
259852	125	25:1	35	75.00
259853	150	30:1	35	75.00
259854	200	40:1	35	75.00
259855	250	50:1	35	75.00
259856	300	60:1	35	75.00
259857	400	80:1	35	75.00
.....	*500	100:1	35	.....
.....	*600	120:1	35	.....
.....	*800	160:1	35	.....

*Use K-78 above 400 amperes.

Type K-78

For Circuits Not Exceeding 7500 Volts

259819	5	1:1	90	\$100.00
259820	10	2:1	90	100.00
259822	15	3:1	90	100.00
259823	20	4:1	90	100.00
259824	25	5:1	90	100.00
259825	30	6:1	90	100.00
259826	40	8:1	90	100.00
259827	50	10:1	90	100.00
259828	60	12:1	90	105.00
259829	80	16:1	90	105.00
259830	100	20:1	90	105.00
259831	125	25:1	90	110.00
259832	150	30:1	90	110.00
259833	200	40:1	90	110.00
259834	250	50:1	90	110.00
259835	300	60:1	90	110.00
259836	400	80:1	90	110.00
259837	500	100:1	90	110.00
259838	600	120:1	90	130.00
259839	800	160:1	90	130.00

Type K-81

For Circuits Not Exceeding 15000 Volts

269668	5	1:1	105	\$145.00
269669	10	2:1	105	145.00
269670	15	3:1	105	145.00
269671	20	4:1	105	145.00
269672	25	5:1	105	145.00
269673	30	6:1	105	145.00
269674	40	8:1	105	145.00
269675	50	10:1	105	145.00
269676	60	12:1	105	150.00
269677	80	16:1	105	150.00
269678	100	20:1	105	150.00
269679	125	25:1	105	155.00
269680	150	30:1	105	155.00
269681	200	40:1	105	155.00
269682	250	50:1	105	155.00
269683	300	60:1	105	155.00
269684	400	80:1	105	155.00
269685	500	100:1	105	155.00
269686	600	120:1	105	175.00
269687	800	160:1	105	175.00

G-E Outdoor Current Transformers

Oiled-filled

25 to 133 Cycles—27000 to 73000 Volts

Type K-200

For Circuits Not Exceeding 27000 Volts

Cat. No.	Amps.	Ratio	Net Wt., Lbs. Including Oil	Price Each
269580	5-10	1-2:1	400	\$385.00
269581	10-20	2-4:1	400	385.00
269582	12.5-25	2.5-5:1	400	385.00
269583	15-30	3-6:1	400	385.00
269584	20-50	4-8:1	400	385.00
269585	25-40	5-10:1	400	385.00
269586	30-60	6-12:1	400	385.00
269587	40-80	8-16:1	400	385.00
269588	50-100	10-20:1	400	385.00
269589	60-120	12-24:1	400	385.00
269590	80-160	16-32:1	400	385.00
269591	100-200	20-40:1	400	385.00
269592	150-300	30-60:1	400	395.00
269593	200-400	40-80:1	400	395.00
269594	300-600	60-120:1	400	425.00
269595	400-800	80-160:1	400	425.00

Type K-31

For Circuits Not Exceeding 73000 Volts

269628	5-10	1-2:1	925	\$925.00
269629	10-20	2-4:1	925	925.00
269630	12.5-25	2.5-5:1	925	925.00
269631	15-30	3-6:1	925	925.00
269632	20-40	4-8:1	925	925.00
269633	25-50	5-10:1	925	925.00
269634	30-60	6-12:1	925	925.00
269635	40-80	8-16:1	925	925.00
269636	50-100	10-20:1	925	925.00
269637	60-120	12-24:1	925	925.00
269638	80-160	16-32:1	925	925.00
269639	100-200	20-40:1	925	925.00
269640	150-300	30-60:1	925	975.00
269641	200-400	40-80:1	925	975.00
269642	300-600	60-120:1	925	1050.00
269643	400-800	80-160:1	925	1050.00

Type K-201

For Circuits Not Exceeding 45000 Volts

269612	5-10	1-2:1	585	\$500.00
269613	10-20	2-4:1	585	500.00
269614	12.5-25	2.5-5:1	585	500.00
269615	15-30	3-6:1	585	500.00
269616	20-40	4-8:1	585	500.00
269617	25-50	5-10:1	585	500.00
269618	30-60	6-12:1	585	500.00
269619	40-80	8-16:1	585	500.00
269620	50-100	10-20:1	585	500.00
269621	60-120	12-24:1	585	500.00
269622	80-160	16-32:1	585	500.00
269623	100-200	20-40:1	585	500.00
269624	150-300	30-60:1	585	525.00
269625	200-400	40-80:1	585	525.00
269626	300-600	60-120:1	585	575.00
269627	400-800	80-160:1	585	575.00

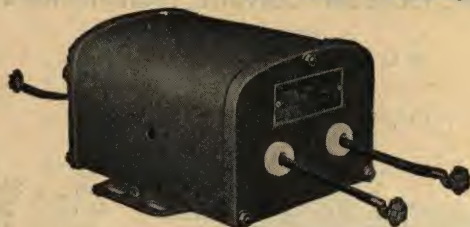
Type K-61

For Circuits Not Exceeding 37000 Volts

269596	5-10	1-2:1	450	\$415.00
269597	10-20	2-4:1	450	415.00
269598	12.5-25	2.5-5:1	450	415.00
269599	15-30	3-6:1	450	415.00
269600	20-40	4-8:1	450	415.00
269601	25-50	5-10:1	450	415.00
269602	30-60	6-12:1	450	415.00
269603	40-80	8-16:1	450	415.00
269604	50-100	10-20:1	450	415.00
269605	60-120	12-24:1	450	415.00
269606	80-160	16-32:1	450	415.00
269607	100-200	20-40:1	450	415.00
269608	150-300	30-60:1	450	475.00
269609	200-400	40-80:1	450	475.00
269610	300-600	60-120:1	450	500.00
269611	400-800	80-160:1	450	500.00



G-E Type E Indoor Potential Transformers



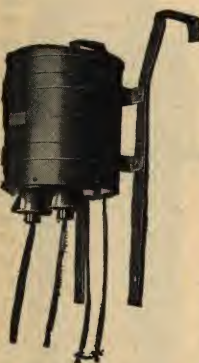
Indoor Dry Type E-11

For operating the potential circuits of measuring devices it is customary to use a transformer to step the voltage down to about 100 to 110 volts.

The potential transformer is used to insulate the meters from the high potential circuit as well as to do away with a large amount of resistance in series with the meters which would be necessary if the meters were connected directly to the high potential circuits. The insulation of the transformer is, therefore, a very important feature as well as the ratio accuracy. G-E instrument and potential transformers listed are designed with a wide margin of safety. This increases their cost but insures absence of troubles caused by operating at voltages too near the break-down voltage of the transformer.

Potential transformers when used in connection with instruments provide protection to the station operator or user of the instrument against

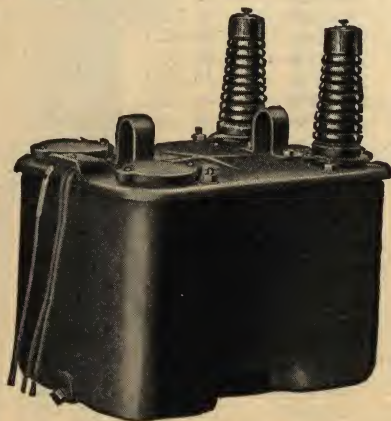
accidental contact with high voltage circuits. Furthermore, the use of potential transformers permits the use of instruments designed with a reasonable amount of insulation. The instrument transformer supplies potential to the instrument circuit at a safe working voltage, generally 110 volts. This low secondary voltage is always proportional to the primary voltage, provided, of course, that the combined burden or secondary load of instruments, watt-hour meters, relays, etc., does not exceed the transformer's rated watts (volt ampere) capacity.



Outdoor Type E-26



Outdoor Type E-15



Indoor Oil Type EM-13

Two general divisions are made in potential transformers, viz., air and oil insulated. The air type has been standardized for potentials up to and including 6600 volts. All higher voltages are of the oil type.

Type E, G-E Indoor Potential Transformers

220 to 33000 Volts, Primary

110 to 125 Volts, Secondary

Dry Type

Without Fuses, 50 Volt-amperes

25 Cycles

Cat. No.	VOLTAGE		Type	Shipping Weight Pounds	Price Each
	Prim-ary	Second-ary			
245684	220	110	E-11	65	\$45.00
245286	440	110	E-11	65	45.00
244846	550	110	E-11	65	45.00
244847	2200	110	E-11	65	47.00
244848	2500	125	E-11	65	49.00

60 Cycles

210153	220	110	E-11	35	\$33.00
245287	440	110	E-11	35	33.00
198202	550	110	E-11	35	33.00
198203	2200	110	E-11	35	35.00
198204	2500	125	E-11	35	37.00

Without Fuses, 200 Volt-amperes

25 Cycles

247547	220	110	E-21	100	\$50.00
247549	440	110	E-21	100	50.00
247550	550	110	E-21	100	50.00
247551	2200	110	E-21	100	52.00
247552	2500	125	E-21	100	54.00
248521	3300	110	E-21	100	73.00
248522	4400	110	E-21	100	78.00
248628	5500	110	E-21	120	95.00
248629	6600	110	E-21	120	100.00

60 Cycles

198666	220	110	E-11	45	\$38.00
245288	440	110	E-11	45	38.00
198206	550	110	E-11	45	38.00
198207	2200	110	E-11	45	40.00
198208	2500	125	E-11	45	42.00
248523	3300	110	E-21	50	60.00
248524	4400	110	E-21	50	65.00
248630	5500	110	E-21	50	80.00
248631	6600	110	E-21	50	85.00

Oil-filled

Without Fuses, 200 Volt-amperes

25 Cycles

Cat. No.	VOLTAGE		Type	Ship. Wt., Lbs.	No. of Gals. of Oil	Price Each
	Prim-ary	Second-ary				
210158	11000	110	EM-13	250	7	\$175.00
210162	13200	110	EM-13	250	7	190.00
60593	22000	110	CQ-3	450	11	375.00
247453	26400	110	EM-13	550	39	500.00
235552	33000	110	EM-13	550	39	550.00

60 Cycles

210156	11000	110	EM-13	250	7	\$130.00
210160	13200	110	EM-13	250	7	140.00
60593	22000	110	CQ-3	450	11	375.00
247454	26400	110	EM-13	475	39	450.00
235553	33000	110	EM-13	475	39	500.00



Type E, G-E Indoor Potential Transformers

220 to 33000 Volts, Primary; 110 to 125 Volts,
Secondary

Dry Type

With Fuses, 50 Volt-amperes

25 Cycles

Cat. No.	VOLTAGE		Type	Shipping Weight Pounds	Price Each
	Prim- ary	Second- ary			
245955	220	110	E-12	70	\$53.00
245289	440	110	E-12	70	53.00
245685	550	110	E-12	70	53.00
244850	2200	110	E-12	70	55.00
244849	2500	125	E-12	70	57.00

60 Cycles

245956	220	110	E-12	40	\$41.00
245290	440	110	E-12	40	41.00
198210	550	110	E-12	40	41.00
198211	2200	110	E-12	40	43.00
198212	2500	125	E-12	40	45.00

With Fuses, 200 Volt-amperes

25 Cycles

247553	220	110	E-22	105	\$58.00
247554	440	110	E-22	105	58.00
247555	550	110	E-22	105	58.00
247556	2200	110	E-22	105	60.00
247557	2500	125	E-22	105	62.00
248525	3300	110	E-22	105	83.00
248526	4400	110	E-22	105	88.00
248632	5500	110	E-22	130	105.00
248633	6600	110	E-22	130	110.00

60 Cycles

198667	220	110	E-12	50	\$46.00
245291	440	110	E-12	50	46.00
198214	550	110	E-12	50	46.00
198215	2200	110	E-12	50	48.00
198216	2500	125	E-12	50	50.00
248527	3300	110	E-22	55	70.00
248528	4400	110	E-22	55	75.00
248634	5500	110	E-22	60	90.00
248635	6600	110	E-22	60	95.00

Oil-filled

With Fuses, 200 Volt-amperes

25 Cycles

Cat. No.	VOLTAGE		Type	Shipping Weight Pounds	Price Each
	Prim- ary	Second- ary			
235947	11000	110	EM-14	265	\$185.00
235948	13200	110	EM-14	265	200.00
33580	22000	110	CQ-1	475	400.00

60 Cycles

235949	11000	110	EM-14	265	\$140.00
235950	13200	110	EM-14	265	150.00
33580	22000	110	CQ-1	475	400.00

G-E Portable Current Transformers

Types P and R



Type P-3



Type R-2

May be used with portable instruments to increase their capacity or insulate them from line.

Type P-3 have primaries arranged for series multiple connections. The Type R-2 and R-3 have no primary winding, ratio being changed by threading the primary cable one or more times through a hole in the core. Both transformers have 5-ampere secondaries, and can be used on circuits varying in frequency from 25 to 125 cycles. Enclosed in cylindrical metal cases.

Type P-3

Cat. No.	Capacity Amperes	Cycles	Ratio	Price Each
248742	5-10-20	25 125	1-2-4:1	\$125.00
248743	15 30 60	25 125	3-6-12:1	125.00
248744	25 50-100	25 125	5-10 20:1	125.00
248745	50-100-200	25-125	10 20-40:1	125.00
248746	7.5-10-15 20 30 40	25-125	1.5-2 3 4 6 8:1	145.00
248747	15 20 30 40 60 80	25-125	3-4 6 8-12 16:1	145.00
248748	20 25 40 50 80 100	25-125	4-5-8-10-16-20:1	145.00
259628	30-37.5-60-76-120-150	25-125	6-7.5-12-15-24-30:1	145.00
248749	30-40 60 80 120-160	25 125	6-8-12-16-24-32:1	145.00
248750	40-50-80-100-160-200	25-125	8-10-16-20-32-40:1	145.00

Type R-2

61551	1000	25-125	200:1 One Turn	\$75.00
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Shipping weight, 35 pounds.

Type R-3

257265	1000-1200	25-125	200-240:1 One Turn	\$130.00
259629	1500-1600	25-125	300-320:1 " "	150.00

Shipping weight, 45 pounds.

G-E Cable Testing Current Transformer Sets



Intended for use in determining the alternating current flowing in a conductor, without opening the circuit to insert an ammeter or a current transformer to operate the ammeter. In determining the load on feeder and distribution networks the cable testing current transformer sets will be found particularly valuable.

The sets consist of a special transformer that has a hinged magnetic circuit and a Thomson Inclined Coil Portable Ammeter.

Cat. No.	Cap. Amps.	Cycles	Price Each	Cat. No.	Cap. Amps.	Cycles	Price Each
33499	125	60	\$110.00	159026	125	25	\$110.00
33500	250	60	110.00	159027	250	25	110.00
159025	500	60	120.00	159028	500	25	120.00



G-E Type Y-298A Tripping Current Transformers

For Oil Circuit Breakers

25-125 Cycles, 15000 Volts or Less



400 Amperes and Below

These transformers are for tripping oil circuit breakers. They may be used with any of the standard 4- and 5-ampere trip coils. They are listed in capacities from 5 to 800 amperes at 15000 volts or less.

In general their use is limited to tripping duty only, either directly or in connection with relays, but where high accuracy is not essential a secondary ammeter may be used.

As these transformers are small and inexpensive they may be used very conveniently in installations where series trip has heretofore been recommended.



500 to 800 Amperes

The smaller capacities from 5 to 300 amperes inclusive are equipped with cast metal bases with two-bolt holes, allowing them to be bolted to flat surfaces or pipe supports.

The larger capacities from 400 to 800 amperes inclusive are of the bus type and are supported by the buses or the stud of the oil circuit breaker, no bases being required due to the light weight of these transformers.

Cat. No.	Primary Capacity In Amperes	Ratio	Shipping Weight Pounds	Price Each
216838	5	1-1	44	\$59.00
216839	10	2-1	44	59.00
216840	12.5	2.5-1	44	59.00
216841	15	3-1	44	59.00
216842	20	4-1	44	59.00
216843	25	5-1	44	59.00
216844	30	6-1	44	59.00
216845	40	8-1	44	59.00
216846	50	10-1	44	59.00
216847	60	12-1	44	59.00
216848	80	16-1	44	59.00
216849	100	20-1	44	59.00
216850	125	25-1	44	60.00
216851	150	30-1	44	60.00
216852	200	40-1	44	61.00
216853	250	50-1	44	61.00
216854	300	60-1	44	61.00
216855	350	70-1	44	62.00
246264	400	80-1	44	62.00
246265	500	100-1	44	62.00
246266	600	120-1	44	62.00
246267	800	160-1	44	63.00

All transformers are provided with an additional turn on secondary for ammeters only.

These transformers are tested at 5000 volts between primary and all other parts, and at 2500 volts between secondary and ground.

G-E Type L-2 Tripping Current Transformers

For Oil Circuit Breakers

25-125 Cycles, 4500 Volts or Less



300-ampere Transformer

These transformers are for tripping oil circuit breakers. They may be used with any of the standard 4 and 5-ampere trip coils. They are listed in capacities from 5 to 800 amperes at 4500 volts or less.

In general, their use is limited to tripping duty only, either directly or in connection with relays, but where high accuracy is not essential a secondary ammeter may also be used.

As these transformers are small and inexpensive they may be used very conveniently in installations where series trip has heretofore been recommended.

They are equipped with feet, allowing them to be bolted to flat surfaces or pipe supports.

They have fixed secondary terminals, subtractive polarity and a uniform distance of 12 inches between centers of primary terminals for all capacities.

Type L-2

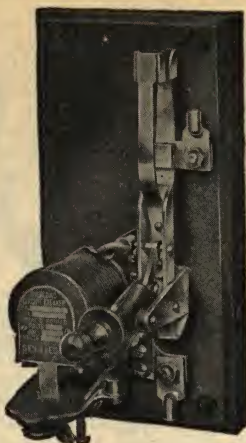
Cat. No.	Primary Capacity In Amperes	Ratio	Shipping Weight Pounds	Price Each
258044	5	1-1	27	\$21.00
258045	10	2-1	27	21.00
258046	12.5	2.5-1	27	21.00
258047	15	3-1	27	21.00
258048	20	4-1	27	21.00
258049	25	5-1	27	21.00
255050	30	6-1	27	21.00
258051	40	8-1	27	21.00
258052	50	10-1	27	21.00
258053	60	12-1	27	21.00
258054	80	16-1	27	21.00
258055	100	20-1	27	21.00
258056	125	25-1	27	22.00
258057	150	30-1	27	22.00
258058	200	40-1	27	23.00
258059	250	50-1	27	24.00
258060	300	60-1	27	24.00
260146	400	80-1	30	24.00
260147	500	100-1	30	25.00
260148	600	120-1	30	25.00
260149	800	160-1	30	25.00

All transformers are provided with an additional turn on secondary for ameters only.

These transformers are tested at 15000 volts between primary and all other parts, and at 2500 volts between secondary and ground.



Type CG G-E Air Circuit Breakers



Direct Current, Overload

Single-pole, 550 Volts or Less

CATALOGUE NUMBERS Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	CALIBRATION		APPROXIMATE SHIPPING WT., LBS.		Price Each
			Min.	Max.	On Base	For Panel	
39899	39911	3	1.5	5	20	12	\$24.00
39903	39915	5	3	8	20	12	24.00
39907	39919	10	5	15	20	12	24.00
35483	35507	15	10	25	20	12	24.00
35487	35511	25	15	40	20	12	24.00
35491	35515	50	25	75	20	12	24.00
35495	35519	100	50	150	20	12	24.00
35499	35523	200	100	300	32	20	36.00
35503	35527	300	200	450	32	20	40.00

Double-pole, 550 Volts or Less

39900	39912	3	1.5	5	30	15	\$38.00
39904	39916	5	3	8	30	15	38.00
39908	39920	10	5	15	30	15	38.00
35484	35508	15	10	25	30	15	38.00
35488	35512	25	15	40	30	15	38.00
35492	35516	50	25	75	30	15	38.00
35496	35520	100	50	150	30	15	38.00
35500	35524	200	100	300	50	35	58.00
35504	35528	300	200	450	50	35	64.00

Direct Current, *Plain Shunt Trip

Single-pole, 550 Volts or Less

CATALOGUE NUMBERS Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	APPROXIMATE SHIPPING WT., LBS.		Price Each
			On Base	For Panel	
110571	110583	100	20	12	\$24.00
110575	110587	200	32	20	36.00
110579	110591	300	32	20	40.00

†Double-pole, 550 Volts

110572	110584	100	25	15	\$38.00
110576	110588	200	48	32	58.00
110580	110592	300	48	32	64.00

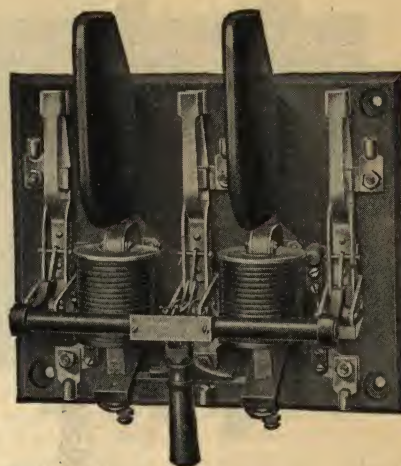
Capacities below 100 amperes, same price.

No overload coils on these breakers.

*Shunt trip coils are intended for momentary operation only and must not be left in circuit continuously after being energized. Connections should be so arranged that the opening of the circuit breaker will disconnect the shunt trip circuit. If for any reason, however, the shunt trip has to be connected to the line side a circuit opening auxiliary switch should be mounted on the breaker to open the trip circuit.

†Double-pole plain shunt breakers trip both poles, same as overload breakers.

Type CG G-E Air Circuit Breakers



Direct Current, Underload

Underload breakers are calibrated at the factory to trip on 20 per cent of the carrying capacity. They can be set to trip at any point as low as 10 per cent if so specified on the requisition.

Single-pole, 550 Volts or Less

CATALOGUE NUMBERS Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	APPROXIMATE SHIPPING WT., LBS.		Price Each
			On Base	For Panel	
37493	37517	15	20	12	\$26.00
37497	37521	25	20	12	26.00
37501	37525	50	20	12	26.00
37505	37529	100	20	12	26.00
37509	37533	200	32	20	40.00
37513	37537	300	32	20	44.00

Double-pole, 550 Volts or Less

37494	37518	15	30	15	\$42.00
37498	37522	25	30	15	42.00
37502	37526	50	30	15	42.00
37506	37530	100	30	15	42.00
37510	37534	200	50	35	64.00
37514	37538	300	50	35	70.00

Alternating Current, Overload

Single-pole, 600 Volts or Less

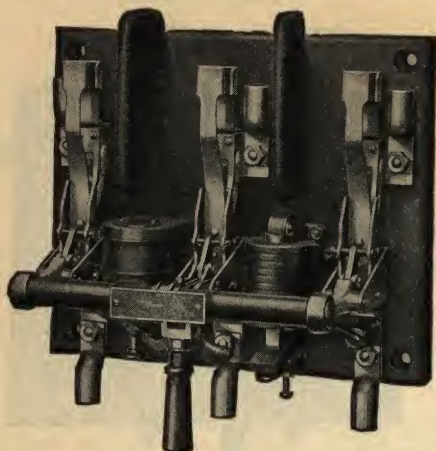
CATALOGUE NUMBERS Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	CALIBRATION		APPROXIMATE SHIPPING WT., LBS.		Price Each
			Min.	Max.	On Base	For Panel	
43340	43352	3	1.5	5	20	12	\$28.00
43344	43356	5	3	8	20	12	28.00
43348	43360	10	5	15	20	12	28.00
38144	38168	15	10	25	20	12	28.00
38148	38172	25	15	40	20	12	28.00
38152	38176	50	25	75	20	12	28.00
38156	38180	100	50	150	20	12	28.00
38160	38184	200	100	300	32	20	46.00
38164	38188	300	200	450	32	20	50.00

Double-pole, 600 Volts or Less

43341	43353	3	1.5	5	30	15	\$44.00
43345	43357	5	3	8	30	15	44.00
43349	43361	10	5	15	30	15	44.00
38145	38169	15	10	25	30	15	44.00
38149	38173	25	15	40	30	15	44.00
38153	38177	50	25	75	30	15	44.00
38157	38181	100	50	150	30	15	44.00
38161	38185	200	100	300	50	35	77.00
38165	38189	300	200	450	50	35	80.00



Type CG G-E Air Circuit Breakers



Each breaker calibrated individually. Wide range of calibration. Close easily; do not jar open.

Double-pole breakers, each pole separate handle; triple-pole breakers, one handle for all poles and "trip free" feature.

Alternating Current, Overload

Triple-pole, 600 Volts, Two Overload Coils

CATALOGUE NUMBERS			APPROXIMATE SHIPPING		Price Each		
Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	CALIBRATION Min. Max.	Wt., LBS. On Base For Panel			
46268	46277	3	1.5	5	44	40	\$76.00
46269	46278	5	3	8	44	40	76.00
46270	46279	10	5	15	44	40	76.00
38190	38214	15	10	25	44	40	76.00
38191	38215	25	15	40	44	40	76.00
38192	38216	50	25	75	44	40	76.00
38193	38217	100	50	150	44	40	76.00
38194	38218	200	100	300	70	55	124.00
38195	38219	300	200	450	70	55	134.00

Triple-pole, 600 Volts

One Overload and One Under-voltage Coil

CATALOGUE NUMBERS	Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	Calibration	On Base	For Panel	Price Each
46274	46283	3	1.5	5	47	44	\$84.00
46275	46284	5	3	8	47	44	84.00
46276	46285	10	5	15	47	44	84.00
38202	38220	15	10	25	47	44	84.00
38203	38221	25	15	40	47	44	84.00
38204	38222	50	25	75	47	44	84.00
38205	38223	100	50	150	47	44	84.00
38206	38224	200	100	300	70	55	132.00
38207	38225	300	200	450	70	55	142.00

Alternating Current, Plain Shunt Trip

Capacities below 100 amperes same price.

Shunt trip coils are intended for momentary operation only and must not be left in circuit continuously after being energized. Connections should be so arranged that the opening of the circuit breaker will disconnect the shunt trip circuit. If for any reason, however, the shunt trip has to be connected to the line side a circuit opening auxiliary switch should be mounted on the breaker to open the trip circuit.

Single-pole, 600 Volts or Less

CATALOGUE NUMBERS			APPROXIMATE SHIPPING WT., LBS.			
Front Connected On Base	Back Connected For 1½ or 2-in. Panel	Cap. Amps.	On Base	For Panel	Price Each	
110547	110559	100	20	12	\$28.00	
110551	110563	200	32	20	46.00	
110555	110567	300	32	20	50.00	

Double-pole, 600 Volts or Less

Double-pole, 600 Volts or Less					
110548	110560	100	25	15	\$44.00
110552	110564	200	48	32	74.00
110556	110568	300	48	32	80.00

Triple-pole, 600 Volts or Less

Triple-pole, 600 Volts or Less					
110593	110596	100	40	30	\$64.00
110594	110597	200	65	50	106.00
110595	110598	300	65	50	114.00

G-E Undervoltage Attachments For Type CG Circuit Breakers



By the use of under voltage release attachment, circuit breakers may be arranged to operate on a drop in or cessation of voltage, two or more circuit breakers may be electrically interlocked and by use of a switch to short-circuit under voltage release, circuit breakers may be tripped from one or more remote points.

For Direct Current

Cat. No.	Voltage of Circuit	Approx. Releasing Voltage	Cap. Amps.	DESCRIPTION OF CIRCUIT BREAKER	No. of Poles	Price Each
37539	125	60	3 to 100	Single and Double	"	\$11.00
37542	125	60	200 and 300	"	"	11.00
37540	250	125	3 to 100	"	"	13.00
37543	250	125	200 and 300	"	"	13.00
37541	500	250	3 to 100	"	"	16.00
37544	500	250	200 and 300	"	"	16.00

For Alternating Current

Cat. No.	Voltage of Circuit	Approx. Releasing Voltage	Cap. Amps.	DESCRIPTION OF CIRCUIT BREAKER	No. of Poles	Price Each
43378	125	60	3 to 100	Single and Double	"	\$12.00
43381	125	60	200 and 300	"	"	12.00
43379	250	125	3 to 100	"	"	14.00
43382	250	125	200 and 300	"	"	14.00
43380	600	300	3 to 100	"	"	17.00
43383	600	300	200 and 300	"	"	17.00

G-E Shunt Trip Attachments For Type CG Circuit Breakers

The shunt trip has been designed to provide for conditions under which the under voltage attachment can not be successfully applied. It trips the breaker when energized, and should be allowed to remain in circuit only momentarily.



For Direct or Alternating Current

Cat. No.	Voltage of Circuit	Cap. Amps.	DESCRIPTION OF CIRCUIT BREAKER	No. of Poles	Price Each
37545	125-250-500	3 to 100	Single and Double	"	\$8.00
37546	125-250-500	200 and 300	"	"	8.00

G-E Auxiliary Switches

For Type CG Circuit Breakers For Direct or Alternating Current



Circuit-closing



Circuit-opening

For Breakers 3 to 100 Amperes

COMBINED						
For Mounting On	CIRCUIT CLOSING		CIRCUIT OPENING AND CIRCUIT CLOSING		CIRCUIT OPENING	
	Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
1 1/4-inch Base	37553	\$5.00	37547	\$5.00	37559	\$7.00
1 1/2 " Panel	37554	5.00	37548	5.00	37560	7.00
2 " "	37555	5.00	37549	5.00	37561	7.00
For Breakers 200 and 300 Amperes						
1 1/4-inch Base	37556	\$5.00	37550	\$5.00	37562	\$7.00
1 1/2 " Panel	37557	5.00	37551	5.00	37563	7.00
2 " "	37558	5.00	37552	5.00	37564	7.00



Type CP G-E Air Circuit Breakers



Single-pole



Triple-pole

These breakers may be relied upon to open circuits under severe abnormal conditions. Either the breakers may have self-contained features which provide the particular protection desired, or various attachments or auxiliary devices may be added to give that protection.

They are recommended for use on railway, lighting and power switchboards, or for general industrial service. When used for industrial service, each breaker is usually on a base for separate mounting.

These breakers are simple in design and each part is properly proportioned for the work it has to perform, and at the same time all combine to form a symmetrical and attractive device.

Alternating Current—Overload—Back Connected

Single-pole, 650 Volts or Less

CATALOGUE NUMBERS	On 1 1/4-in. Base	For 1 1/2 or 2-in. Panel	Cap. Amps.	CALIBRATION Min.	Max.	APPROX. SHIP. WT. IN LBS. On Base For Panel	Price Each
40879	40906	15	10	25	40	25	\$54.00
40882	40909	25	15	40	40	25	54.00
40885	40912	50	25	75	40	25	54.00
40888	40915	100	50	150	40	25	54.00
40891	40918	200	100	300	50	30	66.00
40894	40921	300	200	450	50	30	78.00
40897	40924	500	300	750	50	30	106.00
†107364	107370	600	400	900	50	30	124.00
†40900	40927	800	500	1200	50	40	140.00
†107367	107372	1000	600	1500	50	40	164.00
†40903	40930	1200	800	1800	50	40	180.00

Double-pole—**480 Volts or Less—One Overload Coil

40878	40905	15	10	25	50	40	\$78.00
40881	40908	25	15	40	50	40	78.00
40884	40911	50	25	75	50	40	78.00
40887	40914	100	50	150	50	40	78.00
40890	40917	200	100	300	60	50	100.00
40893	40920	300	200	450	100	60	122.00
40896	40923	500	300	750	100	60	164.00
†107363	107369	600	400	900	100	60	200.00
†40899	†40926	800	500	1200	140	130	210.00
.....	††40932	800	500	1200	140	130	210.00
†107366	†107373	1000	600	1500	140	130	246.00
.....	††107374	1000	600	1500	140	130	246.00
†40902	†40929	1200	800	1800	140	130	282.00
.....	††40935	1200	800	1800	140	130	282.00

Triple-pole—Two Overload Coils—650 Volts or Less

60664	60791	15	10	25	80	60	\$144.00
60665	60792	25	15	45	80	60	144.00
60668	60793	50	25	75	80	60	144.00
60776	60794	100	50	150	80	60	166.00
60777	60795	200	100	300	90	80	180.00
60778	60796	300	200	450	150	90	216.00
60779	60797	500	300	750	150	90	298.00
†114640	114644	600	400	900	150	90	348.00
†60780	†60798	800	500	1200	200	180	380.00
.....	††62347	800	500	1200	200	180	380.00
†114642	†114646	1000	600	1500	200	180	444.00
.....	††114648	1000	600	1500	200	180	444.00
†60781	†60799	1200	800	1800	200	180	508.00
.....	††62348	1200	800	1800	200	180	508.00

List prices include complete sets of nuts for each stud and one terminal per pole.

†Mounted on 1 1/2-inch base.

††For mounting on 1 1/2-inch panel only.

†††For mounting on 2-inch panel only.

**Double-pole, 650-volt breakers, prices on application, stating requirements.

Type CP G-E Air Circuit Breakers



Recommended for general switch-board work.

Close easily. Do not jar open.

Main contact brushes protected by carbon and metal secondaries.

End on contact of brush laminations insures good contact—each lamination under equal pressure. Contact pressure adjustable.

Double-pole breakers, each pole separate handle; triple-pole breakers, one handle for all poles and trip

free features.

All standard Type CP circuit breakers are made back-connected only for panel mounting. Where front-connected Type CP breakers are wanted it is recommended that standard back-connected breakers mounted on slate base to be installed on cleats or brackets to hold the base away from the wall far enough to clear the studs and connections. This method of mounting is decidedly superior to front-connected breakers especially for the larger capacities. A more substantial and secure connection can be made by clamping the terminals between nuts on a large stud than with bolted front-connected terminals. All cables are out of the way, both of the operating mechanism and of the arc from secondary carbons. This makes a neater appearance and a better installation.

The connections may be made to the breaker in the same way as would obtain if the breaker itself were front connected, and where cables are heavy the connections can be more easily made.

Direct Current—Overload—Back Connected

Single-pole, 600 Volts or Less

CATALOGUE NUMBERS	On 1 1/4-inch Base	For 1 1/2 or 2-Inch Panel	Capacity Amperes	CALIBRATION Min.	Max.	APPROX. SHIP. WT. IN LBS. On Base For Panel	Price Each
36206	36233	15	10	25	40	25	\$48.00
36209	36236	25	15	45	40	25	48.00
36212	36239	50	25	75	40	25	48.00
36215	36242	100	50	150	40	25	48.00
36218	36245	200	100	300	50	30	60.00
36221	36248	300	200	450	50	30	70.00
36224	36251	500	300	750	50	30	92.00
†105725	105731	600	400	900	50	30	112.00
†36227	36254	800	500	1200	50	40	126.00
†105728	105734	1000	600	1500	50	40	148.00
†36230	36257	1200	800	1800	50	40	170.00

**Double-pole—250 Volts—One Overload Coil

36205	36232	15	10	25	50	40	\$72.00
36208	36235	25	15	45	50	40	72.00
36211	36238	50	20	75	50	40	72.00
36214	36241	100	50	150	50	40	72.00
36217	36244	200	100	300	60	50	90.00
36220	36247	300	200	450	100	60	110.00
36223	36250	500	300	750	100	60	148.00
†105724	105730	600	400	900	100	60	180.00
†36226	36253	800	500	1200	140	130	190.00
†105727	105733	1000	600	1500	140	130	222.00
†36229	36256	1200	800	1800	140	130	256.00

Double-pole—Double Coil—250 Volts

107088	107099	15	10	25	70	50	\$106.00
107089	107100	25	15	45	70	50	106.00
107090	107101	50	25	75	70	50	106.00
107091	107102	100	50	150	70	50	106.00
107092	107103	200	100	300	80	70	130.00
107093	107104	300	200	450	140	85	150.00
107094	107105	500	300	750	140	85	194.00
†107095	107106	600	400	900	140	85	234.00
†107096	107107	800	500	1200	200	180	252.00
†107097	107108	1000	600	1500	200	180	296.00
†107098	107109	1200	800	1800	200	180	340.00

List prices include complete equipment of nuts for each stud and one terminal per pole.

†Mounted on 1 1/2-inch base.

**Double-pole, 650-volt breakers, prices on application, stating requirements.



Type CP G-E Air Circuit Breakers



In general construction the reverse current breaker follows closely the design of the underload breaker, but with the addition of a small potential coil which is momentarily in circuit during the closing of the breaker; this coil energizes the trip magnet and holds the plunger against the action of a spring.

Type CP G-E Air Circuit Breakers



Underload breakers differ from corresponding overload breakers only in the construction of the tripping details.

Pulling down the knob at bottom of calibrating tube sets the plunger against the action of a spring and allows the breaker to be closed.

Direct Current—Reverse Current—Back Connected
†Single-pole, 650 Volts or Less

CATALOGUE NUMBERS On 1½-inch Base	For 1½ or 2-inch Panel	Cap. Amps.	††CALIBRATION		APPROX. SHIP.		Price Each
			Max.	Min.	On Base	For Panel	
107112	107145	15			50	35	\$78.00
107115	107148	25			50	35	78.00
107118	107151	50	5	20	50	35	78.00
107121	107154	100	per cent	per cent	50	35	78.00
107124	107157	200	of	of	60	40	90.00
107127	107160	300	rated	rated	60	40	100.00
107130	107163	500	ampere	ampere	60	40	122.00
†107133	107166	600	capacity	capacity	60	40	142.00
†107136	**107169	800	on	on	60	50	156.00
†107139	**107172	1000	reversal	reversal	60	50	178.00
†107140	**107175	1200			60	50	200.00
†Double-pole, 250 Volts or Less							
107111	107144	15			60	50	\$102.00
107114	107147	25			60	50	102.00
107117	107150	50	5	20	60	50	102.00
107120	107153	100	per cent	per cent	60	50	102.00
107123	107156	200	of	of	70	60	120.00
107126	107159	300	rated	rated	110	70	140.00
107129	107162	500	ampere	ampere	110	70	178.00
†107132	107165	600	capacity	capacity	110	70	210.00
†107135	**107168	800	on	on	150	140	220.00
†107138	**107171	1000	reversal	reversal	150	140	252.00
†107141	**107174	1200			150	140	286.00

Direct Current—Overload and Reverse Current
Back Connected

††Single-pole, 650 Volts or Less							
CATALOGUE NUMBERS On 1½-inch Base	For 1½ or 2-inch Panel	Cap. Amps.	††CALIBRATION Max.	††CALIBRATION Min.	On Base	For Panel	Price Each
107178	107211	15	10	25	60	50	\$104.00
107181	107214	25	15	40	60	50	104.00
107184	107217	50	25	75	60	50	104.00
107187	107220	100	50	150	60	50	104.00
107190	107223	200	100	300	70	60	120.00
107193	107226	300	200	450	110	70	132.00
107196	107229	500	300	750	110	70	158.00
†107199	107232	600	400	900	110	70	186.00
†107202	**107235	800	500	1200	150	140	220.00
†107205	**107238	1000	600	1500	150	140	252.00
†107208	**107241	1200	800	1800	150	140	286.00
††Double-pole, 250 Volts							
107177	107210	15	10	25	80	60	\$126.00
107180	107213	25	15	40	80	60	126.00
107183	107216	50	25	75	80	60	126.00
107186	107219	100	50	150	80	60	126.00
107189	107222	200	100	200	90	80	150.00
107192	107225	300	150	450	150	95	170.00
107195	107228	500	300	750	150	95	214.00
†107198	107231	600	400	900	150	95	254.00
†107201	**107234	800	500	1200	210	190	282.00
†107204	**107237	1000	600	1500	210	190	326.00
†107207	**107240	1200	800	1800	210	190	370.00

Nuts and terminals. Prices include complete equipment of nuts for each stud and one terminal per pole.

*No overload coil, operates on reversal only.

†The magnetizing coil used with the reverse current breaker differs for each voltage, therefore the line voltage must be definitely specified in each case.

†Mounted on 1½-inch base.

**For 2-inch panel mounting only. If for any other thickness, order should specify similar to corresponding Cat. No. except for inch panel.

†§Breakers have one overload coil and one separate reverse current coil, either of which actuate the tripping mechanism.

††Calibration of reverse current coil is from 5 to 20 per cent of rated ampere capacity on reversal.

Direct Current—Underload—Back Connected

Single-pole, 650 Volts or Less							
CATALOGUE NUMBERS On 1½-inch Base	For 1½ or 2-in. Panel	Capacity Amperes	APPROX. SHIPPING Wt. in Lbs.		On Base For Panel		Price Each
42076	42103	15	40	25			\$78.00
42079	42106	25	40	25			78.00
42082	42109	50	40	25			78.00
42085	42112	100	40	25			78.00
42088	42115	200	50	30			90.00
42091	42118	300	50	30			100.00
42094	42121	500	50	30			122.00
†107012	107018	600	50	30			142.00
†42097	42124	800	50	40			156.00
†107015	107021	1000	50	40			178.00
†42100	42127	1200	50	40			200.00
Double-pole, 250 Volts							
42075	42102	15	50	40			\$102.00
42078	42105	25	50	40			102.00
42081	42108	50	50	40			102.00
42084	48111	100	50	40			102.00
42087	42114	200	60	50			120.00
42090	42117	300	100	60			146.00
42093	42120	500	100	60			178.00
†107011	107017	600	100	60			210.00
†42096	42123	800	140	130			220.00
†107014	107020	1000	140	130			252.00
†42099	42126	1200	140	130			286.00

NOTE.—Underload breakers may be set to trip between the limits of 10 per cent and 20 per cent of their rated capacity.

Direct Current—Overload and Underload
Back Connected

Single-pole, 650 Volts or Less							
CATALOGUE NUMBERS On 1½-in. Base	For 1½ or 2-in. Panel	Capacity Amperes	††CALIBRATION** Min.	††CALIBRATION** Max.	APPROX. SHIPPING Wt. in Lbs.		Price Each
107024	107057	15	10	25	50	40	\$104.00
107027	107060	25	15	45	50	40	104.00
107030	107063	50	25	75	50	40	104.00
107033	107066	100	50	150	50	40	104.00
107036	107069	200	100	300	60	50	120.00
107039	107072	300	200	450	100	60	132.00
107042	107075	500	300	750	100	60	158.00
†107045	107078	600	400	900	100	60	186.00
†107048	107081	800	500	1200	140	130	220.00
†107051	107084	1000	600	1500	140	130	252.00
†107054	107087	1200	800	1800	140	130	286.00
Double-pole, 250 Volts or Less							
107023	107056	15	10	25	70	50	\$126.00
107026	107059	25	15	45	70	50	126.00
107029	107062	50	25	75	70	50	126.00
107032	107065	100	50	150	70	50	126.00
107035	107068	200	100	300	80	70	150.00
107038	107071	300	200	450	140	85	170.00
107041	107074	500	300	750	140	85	214.00
†107044	107077	600	400	900	140	85	254.00
†107047	107080	800	500	1200	200	180	282.00
†107050	107083	1000	600	1500	200	180	326.00
†107053	107086	1200	800	1800	200	180	370.00

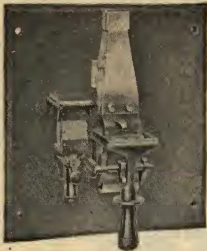
NOTE.—No relays used. Both underload and overload coils are combined with the breakers. List prices include complete set of nuts for each stud and one terminal per pole.

†Mounted on 1½-inch base. **Underload breakers may be set to trip between the limits of 10 per cent to 20 per cent of their rated ampere capacity.



Type CP G-E Air Circuit Breakers

Direct Current—Plain Shunt Trip—Back Connected



Shunt trip coils are intended for momentary operation only and must not be left in circuit continuously after being energized. Connections should be arranged so that the opening of the circuit breaker will disconnect the shunt trip circuit. If, however, the shunt trip has to be connected to the line side, a circuit opening auxiliary switch should be mounted on the circuit breaker to open the trip circuit.

CATALOGUE NUMBERS		APPROX. WT., POUNDS		Price Each
On 1 1/4-inch Base	For 1 1/2 or 2-inch Panel	On Base	For Panel	
107244	107268	100	25	\$48.00
107247	107271	200	30	60.00
107250	107274	300	30	70.00
107253	107277	500	30	92.00
†107256	107280	600	30	112.00
†107259	107283	800	40	126.00
†107262	107286	1000	40	148.00
†107265	107289	1200	40	170.00

CATALOGUE NUMBERS		APPROX. WT., POUNDS		Price Each
On 1 1/4-inch Base	For 1 1/2 or 2-inch Panel	On Base	For Panel	
107243	107267	100	40	\$72.00
107246	107270	200	40	90.00
107249	107273	300	60	110.00
107252	107276	500	60	148.00
†107255	107279	600	60	180.00
†107258	107282	800	130	190.00
†107261	107285	1000	130	222.00
†107264	107288	1200	130	256.00

List prices include complete equipment of nuts for each stud and one terminal per pole. †Mounted on 1 1/2-inch base.
*The coil used with the shunt trip breaker will operate on any direct current voltage 650 volts or less.

Auxiliary Switches

For Type CP Circuit Breakers

The circuit-closing auxiliary switch is arranged to make contact when the breaker opens and may be used for interlocking schemes or to indicate the opening of a breaker by means of an indicating lamp or bell alarm.

FOR MOUNTING ON BASE		FOR MOUNTING ON 1 1/2-INCH PANEL		FOR MOUNTING ON 2-INCH PANEL	
Capacity Breaker Amps.	1 1/4-INCH THICK Cat. No. Price Each	1 1/2-INCH PANEL Cat. No. Price Each	2-INCH PANEL Cat. No. Price Each	Capacity Breaker Amps.	1 1/4-INCH THICK Cat. No. Price Each
15-200	1937635035 \$8.00	1937635036 \$8.00	1937635037 \$8.00	300-500	1937635038 8.00
					1937635039 8.00

FOR SINGLE-POLE A. C., OVERLOAD ONLY		FOR SINGLE-POLE A. C., OVERLOAD ONLY		FOR SINGLE-POLE A. C., OVERLOAD ONLY	
800-1200	1937635043 \$8.00	1937635043 \$8.00	1937635044 \$8.00	800-1200	1937635043 \$8.00

FOR SINGLE OR DOUBLE-POLE, D. C.—DOUBLE OR TRIPLE-POLE, A. C.—ALSO 600-AMPERE SINGLE-POLE A. C.		FOR SINGLE OR DOUBLE-POLE, D. C.—DOUBLE OR TRIPLE-POLE, A. C.—ALSO 600-AMPERE SINGLE-POLE A. C.		FOR SINGLE OR DOUBLE-POLE, D. C.—DOUBLE OR TRIPLE-POLE, A. C.—ALSO 600-AMPERE SINGLE-POLE A. C.	
600-1200	1937635041 \$8.00	1937635041 \$8.00	1937635042 \$8.00	600-1200	1937635041 \$8.00

Shunt Trip Attachments

For Type CP Circuit Breakers

The shunt trip attachment causes the breaker to open when energized. The coil should be allowed to remain only momentarily in circuit; hence it should be so connected that the opening of the circuit breaker disconnects it from the circuit.

CATALOGUE NUMBERS		APPROX. WT., POUNDS		Price Each
On 1 1/4-inch Base	For 1 1/2 or 2-inch Panel	On Base	For Panel	
36267	650 or Less	15- 600	1, 2 and 3	\$10.00
43371	650 " "	800-1200	1	10.00
36268	650 " "	800-1200	2 and 3	10.00

Approximate shipping weight, 10 pounds.

G-E Undervoltage Attachments

For Type CP Circuit Breakers

CATALOGUE NUMBERS		APPROX. WT., POUNDS		Price Each
On 1 1/4-inch Base	For 1 1/2 or 2-inch Panel	On Base	For Panel	
43362	125	15-600	1, 2 and 3	\$16.00
43363	250	15-600	1, 2 " 3	18.00
43364	*650 (480)	15-600	1, 2 " 3	22.00
43368	125	800-1200	1	16.00
43369	250	800-1200	1	18.00
43370	*650 (480)	800-1200	1	22.00
43365	125	800-1200	2 and 3	16.00
43366	250	800-1200	2 " 3	18.00
43367	*650 (480)	800-1200	2 " 3	22.00

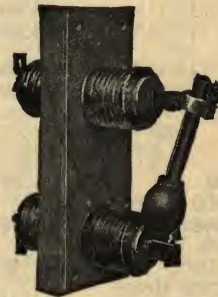
CATALOGUE NUMBERS		APPROX. WT., POUNDS		Price Each
On 1 1/4-inch Base	For 1 1/2 or 2-inch Panel	On Base	For Panel	
1840072G1	125	15-600	1, 2 and 3	\$14.00
1840072G2	250	15-600	1, 2 " 3	16.00
1840072G3	*650 (480)	15-600	1, 2 " 3	20.00
1840072G7	125	800-1200	1	15.00
1840072G8	250	800-1200	1	17.00
1840072G9	*650 (480)	800-1200	1	21.00
1840072G4	125	800-1200	2	14.00
1840072G5	250	800-1200	2	16.00

Approximate shipping weight, 15 pounds.
*For use on alternating current only at 480 volts. Attachments with 650-volt, 480-volt rating adjusted to release at approximately 240 volts.
†Releases at approximately one half rated voltage.
**Include series resistance for under voltage coil.

G-E Expulsion Fusible Cutouts

For Indoor Service

Type TD-113



This device is capable of rupturing more energy under short circuit conditions than any similar piece of apparatus yet developed.

The link holder consists of a heavy insulated metal bulb or explosion chamber into which is screwed a fiber tube. At each end are contact blades and accessible binding screws for the link, the lower binding screw being carried on the screw plug in the "breach" of the explosion chamber.

The 100-ampere takes links 2 1/2 to 100 amperes only.

In mounting fusible cutouts without barriers it is recommended that the space between centers be 8 in. for 2500 volts and 12 in. for 7500 volts, but if barriers are used this distance may be reduced to 5 and 8 in. respectively.

100 Amperes, 2500 Volts

For Marble Panel

RECOMMENDED
POLE SPACING
IN INCHES
FOR S. P. UNITS
SEVERAL MOUNTED

Cat. No. (Includes Link Holder but not Link)	No. of Poles	Without Barrier	With Barrier	Connected	Barriers Inc.	Ship. Wt. Lbs.	Price Each
1959568G1	1	8	5	Back	..	5	\$17.00
†1959568G2	1	8	5	Back	..	6	\$18.00
1918678G1	1	8	5	Front	..	30	\$29.00
1918678G2	2	..	..	"	1	80	\$9.00
1918678G3	3	..	..	"	2	120	\$7.00
1918678G4	4	..	..	"	3	160	\$10.00

100 Amperes, 7500 Volts

On Metal Base

1918673G1	1	12	8	Back	..	60	\$45.00
1918673G2	1	12	8	Front	..	40	\$29.00

Barriers included with 2500-volt, double, triple and four-pole cutouts are Blue Vermont Marble.

†Cat. No. 1959568G2 has extra stud insulation to allow for mounting on slate panel.

Do not fail to order at least one link per pole of proper capacity also operating hooks, unless customer already has a sufficient number of these on hand.



G-E Expulsion Fusible Cutouts For Indoor Service

Type TD-113

The 200-ampere size takes links 110 to 200 amperes only.

200 Amperes, 2500 Volts

For Marble Panel

Cat. No. (Includes Link Holder but not Link)	RECOMMENDED POLE SPACING IN INCHES		Con- nec- ted	Barriers Inc.	Ship. Wt. Lbs.	Price Each
	No. of Poles	FOR S. P. UNITS SEVERAL MOUNTED IN A ROW Without With Barrier Barrier				
1959569G1	1	8 5	Back	..	5	\$19.00
On Marble Base						
1918675G1	1	8 5	Front	..	30	\$33.00
1918675G2	2	.. ..	"	1	80	69.00
1918675G3	3	.. ..	"	2	120	105.00
1918675G	4	.. ..	"	3	160	133.00

200 Amperes, 7500 Volts

On Metal Base

1918673G3	1	12 8	Back	..	60	\$50.00
1918673G4	1	12 8	Front	..	40	34.00

Half Yokes With Nut For Pipe Mounting

When it is desired to mount the 7500-volt Type TD-113 cutouts on 1 1/4-in. pipe (not included), add for each two 1/2-in. half yokes with nut for clamping base to pipe.

Price, No. 195406, Net.....each \$.12

G-E Expulsion Fusible Cutout Accessories

Separate Link Holders—Without Links

Cat. No.	Volts	Description	Shipping Wt., Lbs.	Price Each
59475	2500	For Types TD-3 and TD-113	6	\$8.00
59477	7500	" " TD-13 or TD-113	8	9.00
200 Amperes				
59476	2500	For Types TD-3 and TD-113	8	\$12.00
59478	7500	" " TD-13 or TD-113	10	13.00

Operating Hooks—3-foot Handle

100 Amperes			200 Amperes		
Cat. No.	Shipping Wt., Lbs.	Price Each	Cat. No.	Shipping Wt., Lbs.	Price Each
45229	5	\$6.00	45230	5	\$6.00

Marble Barrier—For 2500 Volts

*1875306P10	25	\$9.00	*1875306P11	30	\$11.00
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Slate Barriers—For 7500 Volts

†1840136P2	45	\$11.50	1840136P2	45	\$11.50
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Barrier Supports—For 2500 Volts

†1918687G1	..	\$2.50	1918687G1	..	\$2.50
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*Includes fastenings for holding to base or panel.

†Two barrier supports necessary.

Links for 2500 and 7500-volt and Type

TD-113 Fusible Cutouts

For 100 Ampere Holder Only

2500 Volts				7500 Volts			
Ampere Continuous	Cat. No. Also Suit- able for	Ship. Wt. Lbs.	Net Price Each	Ampere Continuous	Cat. No. Also Suit- able for	Ship. Wt. Lbs.	Net Price Each
Carrying Capacity	Type TD-3 Link Holders			Current Carrying Capacity	Types TD-3 Link Holders		
2 1/2	118571	..	\$1.10	2 1/2	118593	..	\$1.15
5	118572	..	.10	5	118594	..	.15
8	118573	..	.10	8	118595	..	.15
10	118574	..	.10	10	118596	..	.15
15	118575	..	.10	15	118597	..	.15
20	118576	..	.15	20	118598	..	.15
25	118577	..	.15	25	118599	..	.15
30	118578	..	.15	30	118600	..	.15
40	118579	..	.15	40	118601	..	.15
50	118580	..	.15	50	118602	..	.15
60	118581	..	.15	60	118603	..	.15
70	118582	..	.15	70	118604	..	.15
80	118583	..	.15	80	118605	..	.15
90	118584	..	.15	90	118606	..	.15
100	118585	..	.15	100	118607	..	.15
For 200 Ampere Holder Only							
110	118586	..	\$1.15	110	118608	..	\$1.25
125	118587	..	.15	125	118609	..	.25
140	118588	..	.15	140	118610	..	.25
155	118589	..	.15	155	118611	..	.35
170	118590	..	.15	170	118612	..	.35
180	118591	..	.15	180	118613	..	.35
200	118592	..	.15	200	118614	..	.45

G-E Oil Circuit Breakers

Instructions for Ordering or Requesting Prices

1.—The manufacturer's number of the breaker must always be given.

2.—The manufacturer's number of rating of the series coils or current transformers desired must always be given.

If under-voltage release is desired:

3.—The manufacturer's number of the attachment, or the normal voltage and the frequency of the circuit must be given.

If the above conditions are not complied with, breakers will be shipped with series coils or transformers of the same rating as the breaker, if possible, or the next higher rating.

The manufacturer's number of the breaker does not determine the proper series coil or transformer that must be used in order to secure a range of calibration (tripping points) suitable to the circuit on which it is to be used.

Prices and information on breakers for voltages and capacities not listed, and on electrically and pneumatically operated breakers, will be quoted on request.

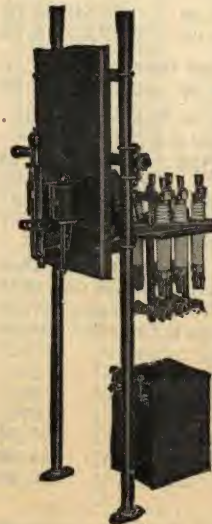
By the use of relays various arrangements of automatic oil breakers may be secured, such as protection against reversal of current, etc.

Interrupting Capacity

While an oil circuit breaker may be insulated for a given potential and constructed to carry a definite amount of current, it should not be understood that the breaker will necessarily interrupt that amount of normal energy equivalent to the volt and ampere rating of the breaker, in the event of a short circuit. A source of electrical energy may have power greatly in excess of its normal capacity, and the breaker may, therefore, be required to interrupt not merely the normal energy delivered to the circuit in which it is connected, but the entire power which may be developed under short circuit conditions by all the generators and synchronous apparatus in parallel which are connected to the system.

Under short circuit conditions, synchronous generators develop instantaneously many times the normal full load capacity, while the sustained short circuit current will be approximately two and one-half to three times normal. Therefore, instantaneous automatic breakers must be capable of interrupting the circuit when the current is at a maximum, whereas non-automatic breakers and automatic breakers with time limit relays have to interrupt only the sustained short circuit current. The reason is evident since the delay in the opening of the breaker allows the current to settle down to approximately two or three times normal.

Type FK-5 G-E Oil Circuit Breakers



The line of Type FK5 oil breakers together with the K13 breakers supersede the K3 breakers which are now out of production. The K5 line is very complete and these breakers can be applied in many cases where much more expensive breakers have been used in the past.

The 7500-volt K5 breakers have about the same over all dimensions and rupturing capacity as the obsolete K2, and, though not interchangeable, they may be used in some installations where the K2, 7500-(6600) volt breakers have been required.

The addition of the 600-volt breakers has been of great commercial assistance in that they provide a line of relatively large (300-800 amp.) breakers at a lower cost with insulation comparable with that of the balance of the equipment.

The one-piece clamped-in insulator is a feature of the K5 breaker.

Current transformers are not included with automatic oil breakers. They should be properly selected for the given circuit and ordered separately.

Prices quoted upon application.



Type FK-13 G-E Oil Circuit Breakers



The 200-ampere 3300-(2500) volt Type FK-13 oil breakers supersede and are interchangeable with the 100 and 200-ampere 4500-volt K-3 breakers. The insulation of the K-13 is practically identical with that used on the K-3 and other parts of the breakers differ only in minor details.

The voltage rating is reduced to 3300 volts and certain limitations are placed upon its use to restrict its application to systems of moderate capacity.

These breakers are given a 10,000-volt test and may be used on 3300 volts except series trip.

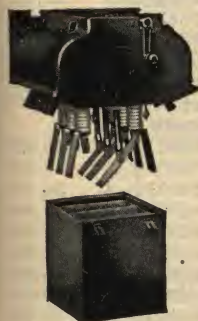
The K-13 breakers preserve all the excellent features of the K-3 breakers which have made them the most successful moderate priced oil breaker on the market. They are double break, have low temperature rise and yet are competitive in price with the single-break types of inferior construction.

Current transformers are not included with automatic oil breakers.

Prices quoted upon application.

Type FP-7 G-E Pole Line Oil Circuit Breakers

Single-throw without Overload Release, Non-automatic



100 Amperes, 4500 Volts				
Cat. No.	No. of Poles	Shipping Wt., Lbs.	Price Each	
150127	2	125	\$56.00	
150128	3	175	73.00	
150129	4	225	89.00	
200 Amperes, 7500 Volts				
150133	1	175	\$57.00	
150134	2	200	82.00	
150135	3	250	107.00	
150136	4	275	133.00	
200 Amperes, 15000 Volts				
150137	1	250	\$104.00	
150138	2	300	136.00	
150139	3	350	180.00	
150140	4	400	222.00	

Type FP-104 G-E Oil Circuit Breakers

Hand-operated, Non-automatic, without Overload Release

200 Amperes, 7500 Volts

Watertight—For Manhole Service

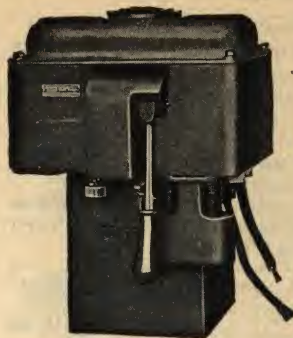
Can be operated with a hook. The shaft to which the handle is attached passes through the frame in a watertight stuffing box. The frame, cover, and oil tank are of cast iron and all joints are made watertight.



Single-pole, Single-throw

Cat. No.	No. of Cable Inlets	Cap. U. S. Gals. No. 6 G-E Oil	Shipping Wt., Lbs.	Price Each
2174100G1	2	2	140	\$212.00
Double-pole, Single-throw				
2174101G1	2	3	200	248.00
Triple-pole, Single-throw				
1968970G1	2	4	250	292.00

Type FK-20 G-E Oil Circuit Breakers



Non-automatic, without Overload Release 2500 Volts or Less

The non-automatic breakers listed have the tripping toggle so that undervoltage or automatic features can be added at any time.

Triple-pole, Single-throw

Cat. No.	*Amps.	Cap. Gal.	City Wt. Lbs.	Price Each
167368	60	2	130	\$45.00
167369	200	2	135	54.00
167370	300	4	185	94.00
Four-pole, Single-throw				
167371	60	3	170	\$83.00
167372	200	3	180	94.00

Automatic, with Double Series I. T. L. Overload Trip

Triple-pole, Single-throw—2500 Volts or Less						
Cat. No..	AMPERES, *Breaker	CAPACITY Series Coils	Capa- city Gal.	Approx. Ship. Wt., Lbs.	Price Each	
167373	60	2	2	145	\$65.00	
167374	60	3	2	145	65.00	
167375	60	4	2	145	65.00	
167376	60	6	2	145	65.00	
167377	60	8	2	145	65.00	
167378	60	10	2	145	65.00	
167379	60	12	2	145	65.00	
167380	60	16	2	145	65.00	
167381	60	20	2	145	65.00	
167382	60	25	2	145	65.00	
167383	60	30	2	145	65.00	
167384	60	40	2	145	65.00	
167385	60	50	2	145	65.00	
167386	60	60	2	145	65.00	
167387	200	70	2	150	74.00	
167388	200	80	2	150	74.00	
167389	200	100	2	150	74.00	
167390	200	125	2	150	74.00	
167391	200	145	2	150	74.00	
167392	200	160	2	150	74.00	
167393	200	170	2	150	74.00	
167394	200	200	2	150	74.00	
167395	300	225	4	200	113.00	
167396	300	250	4	200	113.00	
167397	300	275	4	200	113.00	
167398	300	300	4	200	113.00	

Four-pole, Single-throw—2500 Volts or Less

Cat. No.	AMPERES, *Breaker	CAPACITY Series Coils	Capa- city Gal.	Approx. Ship. Wt., Lbs.	Price Each
167399	60	2	3	185	\$102.00
167400	60	3	3	185	102.00
167401	60	4	3	185	102.00
167402	60	6	3	185	102.00
167403	60	8	3	185	102.00
167404	60	10	3	185	102.00
167405	60	12	3	185	102.00
167406	60	16	3	185	102.00
167407	60	20	3	185	102.00
167408	60	25	3	185	102.00
167409	60	30	3	185	102.00
167410	60	40	3	185	102.00
167411	60	50	3	185	102.00
167412	60	60	3	185	102.00
167413	200	70	3	195	113.00
167414	200	80	3	195	113.00
167415	200	100	3	195	113.00
167416	200	125	3	195	113.00
167417	200	145	3	195	113.00
167418	200	160	3	195	113.00
167419	200	170	3	195	113.00
167420	200	200	3	195	113.00

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Series coils will carry 25 per cent overload for 2 hours at 45 degrees C. rise or less.

The calibration or series coils is from normal, as listed, to two times, i.e., 2 to 4, 3 to 6, 60 to 120, etc.



Type FK-20 G-E Oil Circuit Breakers

2500 Volts or Less

Undervoltage Attachments*

All undervoltage attachments listed below include coil W. S. F. 92660 and are common for all breakers listed. The undervoltage mechanism and transformer, where required, is mounted within the breaker frame, and when properly adjusted the oil breaker cannot be closed until undervoltage plunger is lifted by hand to its upper position, when it will hold in if full potential is upon the line.

The undervoltage attachment should be connected across one phase on the load side, if possible, with proper transformer and tap in circuit. No resistances required.

Cat. No.	Circuit		Includes Transformer Mfrs. No.	Approx. Net Wt., Lbs. Extra†	Price Each
	Volts	Cycles			
167421	110	60	None	3	\$10.00
167422	110	25-40	191392	6	17.00
	220	25-40-60			
	440	25-40-60			
167423	2200	60	191393	8	19.00
	2200	25-40	191394	9	21.00

*Release at approximately one-half rated voltage.

†Add 5 pounds for boxing if shipped separate from breaker.

‡Auto-transformer with taps tagged to indicate proper connections for various voltages and cycles.

Gaskets

Order breakers Same as Cat. No. (give Cat. No. of standard breaker), except that it is to be equipped with felt gaskets.

Breakers ordered with gaskets will be furnished with gaskets between cover and frame and between frame and oil vessel.

Standard Type FK-20 oil circuit breakers, as regularly furnished, are sufficiently dustproof for use in cotton mills and for like service. When, however, these breakers are to be installed in cement or flour mills where the dust is very fine the standard breakers are not tight enough to exclude the dust from the top of the breaker or the oil vessel. In these cases breakers provided with felt gaskets should always be recommended.

Price, for 60-200 Ampere Breaker, 2 and 3-pole..each	\$4.75
" " 300 " " 2 " 3 " " "	4.75
" " 60-200 " " 4-pole.....	4.75

Oil Circuit Breaker Covers

For Mounting Ammeters

These covers replace the covers ordinarily furnished with the FK-20 breakers and provide a suitable mounting for a Type R-6 ammeter. The rear half of the cover completely houses the ammeter studs and all connections and is removable to permit of easy access to breaker and connections. The front part of cover which supports the ammeter is provided with bushings to take any standard R-6 ammeter within the range of capacities required.

*Cat. No.	Amperes	For Breaker Poles	Mounts R-6 Ammeter Amps.	Approx. Ship. Wt., Lbs. Extra	Price Each
167425	60-200	2 and 3	4-300	50	\$18.00
167426	300	2 " 3	4-400	60	20.00
167427	60-200	4	4-300	60	20.00

*Ammeters and current transformers, where required, are not included. Order separately.

NOTE.—Series ammeters, R-6, used with Type FK-20 breakers are recommended only for use on circuits 650 volts or less. For voltages above 650 volts, secondary ammeters, 5 amperes with suitable current transformers, should be used. The current transformers are mounted separately, outside of breaker. Secondary ammeters will be calibrated in primary current, if so ordered, without extra charge. Ratio of current transformer with which it is to be used must be specified.

SELECTION OF AMMETERS.—Ammeters for use with induction motors having standard A guarantee (25 per cent overload for 2 hours) should be selected to have full scale deflection equal to or greater than 150 per cent of the normal full load running current.

ORDERING.—In ordering Type FK-20 breakers with cover for ammeter mounting give Cat. No. of breaker (non-automatic or automatic); Cat. No. of undervoltage if required; Cat. No. of special cover as above; also Cat. No. of ammeter and of current transformer if required. The omission of the standard cover will be taken care of without special notice.

CR1035 Type FP-10 G-E Oil Circuit Breakers



Designed for starting and controlling 25, 40 and 60-cycle three-phase or quarter-phase induction motors of 25 horse power or less.

Can be mounted on wall, post or other flat vertical surfaces, or by brackets on machines driven by the motors controlled.

Triple-pole, Single-throw, 600 Volts or Less Non-automatic, without Overload Release

AMPERE Breakers	CAPACITY Coils	APPROX. SHIPPING Wt., Lbs.	QUICK BREAK Cat. No.	PRICE EACH	QUICK MAKE AND BREAK Cat. No.	PRICE EACH
50	20		171040	\$14.00	1912045G1	\$18.00

Four-pole, Single-throw, 600 Volts or Less Non-automatic, without Overload Release

50	25	1911164G8	\$20.00	1911164G4	\$24.00
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Triple-pole, Single-throw, Automatic with Double Series I. T. Overload Trip

50	2	30	171041	\$30.00	1959212G1	\$32.00
50	3	30	171042	30.00	1959212G2	32.00
50	4	30	171043	30.00	1959212G3	32.00
50	6	30	171044	30.00	1959212G4	32.00
50	8	30	171045	30.00	1959212G5	32.00
50	10	30	171046	30.00	1959212G6	32.00
50	12	30	171047	30.00	1959212G7	32.00
50	16	30	171048	30.00	1959212G8	32.00
50	20	30	171049	30.00	1959212G9	32.00
50	25	30	171050	30.00	1959212G10	32.00
50	30	30	171051	30.00	1959213G1	32.00
50	40	30	1959211G1	30.00	1959213G2	32.00
50	50	30	1959211G2	30.00	1959213G3	32.00

Four-pole, Single-throw, Automatic with Double Series I. T. Overload Trip

50	2	35	1959214G1	\$34.00	1959216G1	\$36.00
50	3	35	1959214G2	34.00	1959216G2	36.00
50	4	35	1959214G3	34.00	1959216G3	36.00
50	6	35	1959214G4	34.00	1959216G4	36.00
50	8	35	1959214G5	34.00	1959216G5	36.00
50	10	35	1959214G6	34.00	1959216G6	36.00
50	12	35	1959214G7	34.00	1959216G7	36.00
50	16	35	1959214G8	34.00	1959216G8	36.00
50	20	35	1959214G9	34.00	1959216G9	36.00
50	25	35	1959214G10	34.00	1959216G10	36.00
50	30	35	1959215G1	34.00	1959217G1	36.00
50	40	35	1959215G2	34.00	1959217G2	36.00
50	50	35	1959215G3	34.00	1959217G3	36.00

*Load which the series trip coils will carry continuously at 30 degrees C. rise or less. Coils will carry 25 per cent overload for 2 hours at 45 degrees C. rise.

The calibration of series coils is from normal (as listed) to two times; i.e., 2 to 4, 3 to 6, 25 to 50, 50 to 100, etc.

Triple-pole, Single-throw, 600 Volts or Less Plain Under-voltage Breakers—50 Amperes

Cat. No.	Includes Transformer Mfrs. No.	Circuit Volts	Cycles	Approx. Net Wt., Lbs.	Price Each
1960197G1	None	110	40-60	22	\$18.00
1960197G4	191392	110	25	25	26.00
		220-440-550	25-40-60		

Triple-pole, Single-throw, 600 Volts or Less Under-voltage Breakers with Provision for Plugs Undervoltage and Overload—50 Amps.

The capacity of the protective plugs, 1-20 amperes, limits the use of this combination to three-phase induction motors of approximately 3 H.P. at 110 volts, 5 H.P. at 220 volts, and 5 H.P. at 440 or 550 volts.

1960197G5	None	110	40-60	25	\$24.00
1960197G8	191392	110	25	30	32.00
		220-440-550	25-40-60		

Under-voltage Attachments

Four-pole, Single-throw, 600 Volts or Less

Cat. No.	Includes Transformer Mfrs. No.	Circuit Volts	Cycles	Approx. Net Wt., Lbs. Extra	Price Each
1911192G1	None	110	40-60	3	\$6.00
1959218G1	191392	110	25	6	14.00
		220-440-550	25-40-60		



CR1035 Type FP-15 G-E Oil Circuit Breakers

Non-automatic for Manual or Shipper-rod Operation
Triple-pole, Single-throw

*50 Amperes, 600 Volts or Less



The mechanism is of the quick make and break type, making these breakers especially adapted to shipper-rod control.

They are adapted for mounting on machines or motor frames, wall post brackets or any flat surface. Holes are provided in the back of the frame for supporting bolts. Knob handles for manual operation are regularly furnished but when the breakers are used for shipper-rod control these handles may be removed.

A hole on each side of the frame is provided for the incoming and outgoing leads and it may be used for either open or conduit connections. All live parts are totally enclosed, rendering the breaker practically dust proof.

Approximate shipping weight, 16 pounds.

Price, No. 1908278G1, each \$12.00

*Formerly rated at 30 amperes, the only difference being the addition of re-enforcing springs to the contacts. These parts may be added at any time to FP-15 breakers not so equipped.

Type FK-35 G-E Oil Circuit Breakers

For Switchboard Service

7500 Volts—800 Amperes

Type FK-35 oil circuit breaker is recommended for use up to 7500 volts on systems where thoroughly reliable breakers of moderate capacity are required.

This breaker is of standard unit construction, each unit consisting of oil tank, cover, insulator studs and contacts, blade and rod. Thus, a single, double, triple or four-pole breaker is made up respectively of one, two, three or four standard units plus frame, breaker mechanism and either manual or solenoid operating mechanism.

Each standard unit is suspended from the frame of the oil circuit breaker by attaching the oil tank cover to the under surface of the frame. Each oil tank is held in position by hook bolts.

Distinctive Features

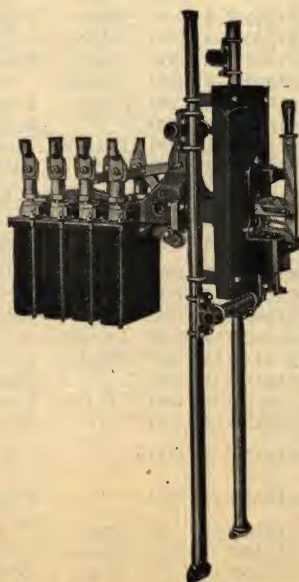
Adapted to either vertical or horizontal operation by making one member of breaker mechanism a bell crank.

Interchangeability of breaker units of like rating.

Each phase in separate tank.

Bell alarm auxiliary switch included with all operating levers.

Price upon application.



Type LG-116 G-E Disconnecting Switches

Single-pole, Single and Double Throw

Indoor Type—Unmounted

2500 or 3500 Volts

Type LG-116 switches are for disconnecting purposes only. They should not be opened under load.

All switches are given an insulations test at least equal to that prescribed in the Standardization Rules of the A. I. E. E. ($2\frac{1}{4}$ rated x voltage + 2000 volts).

2500 or 3500-volt switches are for mounting directly on marble bases or on $1\frac{1}{2}$ or 2-inch marble panels. Slate should not be used. Special LG-116 switches on marble bases for 3500 volts can be furnished. These switches parallel the 2500-volt line on bases except that special larger marble bases and special spacing are required.

Back connected switches, 1200 amperes and below, include 2 nuts and 1 terminal per stud.



Front connected switches, 1200 amperes, inclusive, are equipped with a complete set of terminals.

All switches 1600 amperes and above are laminated for bar connections. No terminals are included.

Do not fail to order one or more switch hooks with each equipment, unless previously ordered.

Cat. No.	Capacity Amperes	Throw	Shipping Wt., Lbs.	Price Each
1960351G1	300	Double	20	\$13.00
1960351G2	300	"	20	12.00
1918497G1	300	Single	20	9.00
1918498G1	300	"	15	8.00
1960350G1	300	"	15	9.00
1960350G2	300	"	15	9.00
1960351G3	600	Double	35	26.00
1960351G4	600	"	30	23.00
1918497G2	600	Single	25	19.00
1918498G2	600	"	25	16.00
1960350G3	600	"	25	17.00
1960350G4	600	"	25	17.00
1960351G5	800	Double	45	38.00
1960351G6	800	"	40	33.00
1918497G3	800	Single	35	27.00
1918498G3	800	"	30	22.00
1960350G5	800	"	35	25.00
1960350G6	800	"	35	25.00
1960351G7	1200	Double	70	62.00
1960351G8	1200	"	65	55.00
1918497G4	1200	Single	50	44.00
1918498G4	1200	"	45	37.00
1960350G7	1200	"	50	40.00
1960350G8	1200	"	50	40.00
1960349G1	1600	Double	85	90.00
1960349G2	1600	"	75	80.00
1918497G5	1600	Single	60	66.00
1959750G1	1600	"	50	56.00
1960348G1	1600	"	55	60.00
1960348G2	1600	"	55	60.00
1960349G3	2000	Double	90	118.00
1960349G4	2000	"	80	108.00
1918497G6	2000	Single	75	84.00
1959750G2	2000	"	65	74.00
1960348G3	2000	"	70	79.00
1960348G4	2000	"	70	79.00
1960349G5	3000	Double	130	157.00
1960349G6	3000	"	120	144.00
1918497G7	3000	Single	100	115.00
1959750G3	3000	"	90	102.00
1960348G5	3000	"	95	108.00
1960348G6	3000	"	95	108.00

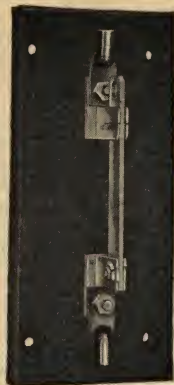


Type LG-116 G-E Disconnecting Switches

Single-pole, Single and Double Throw

Indoor Type—Mounted

2500 Volts



Special Type LG-116 switches paralleling the 2500-volt line can be supplied for 3500 volts. These switches are the same as 2500-volt switches except mounted on special marble bases with special wiring. Prices upon request.

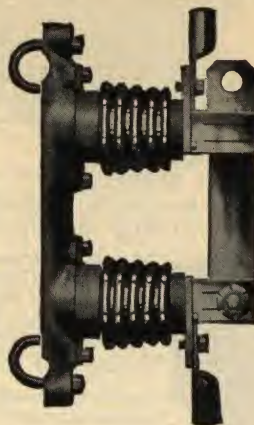
Cat. No.	Capacity Amperes	Throw	Size, Base Inches	Ship. Wt., Lbs.	Price Each
1960061G1	300	Double	22x 6x1 1/2	40	\$26.00
1960061G2	300	"	22x 6x1 1/2	40	25.00
1960058G1	300	Single	15x 6x1 1/2	35	19.00
1960058G2	300	"	15x 6x1 1/2	30	18.00
1960058G3	300	"	15x 6x1 1/2	35	19.00
1960058G4	300	"	15x 6x1 1/2	35	19.00
1960061G3	600	Double	24x 8x1 1/2	60	44.00
1960061G4	600	"	24x 8x1 1/2	60	41.00
1960058G5	600	Single	15x 6x1 1/2	45	29.00
1960058G6	600	"	18x 8x1 1/2	50	28.00
1960058G7	600	"	18x 8x1 1/2	50	29.00
1960058G8	600	"	18x 8x1 1/2	50	29.00
1960061G5	800	Double	24x 8x1 1/2	65	56.00
1960061G6	800	"	24x 8x1 1/2	65	51.00
1960059G1	800	Single	18x 6x1 1/2	50	38.00
1960059G2	800	"	18x 8x1 1/2	55	34.00
1960059G3	800	"	18x 8x1 1/2	55	37.00
1960059G4	800	"	18x 8x1 1/2	55	37.00
1960061G7	1200	Double	28x10x2	115	86.00
1960061G8	1200	"	28x10x2	115	79.00
1960059G5	1200	Single	18x10x1 1/2	85	58.00
1960059G6	1200	"	18x10x1 1/2	80	51.00
1960059G7	1200	"	18x10x1 1/2	80	54.00
1960059G8	1200	"	18x10x1 1/2	80	54.00
1960062G1	1600	Double	28x10x2	135	114.00
1960062G2	1600	"	28x10x2	120	104.00
1960060G1	1600	Single	18x10x1 1/2	100	80.00
1960060G2	1600	"	18x10x1 1/2	85	70.00
1960060G3	1600	"	18x10x1 1/2	90	74.00
1960060G4	1600	"	18x10x1 1/2	90	74.00
1960062G3	2000	Double	28x12x2	140	148.00
1960062G4	2000	"	28x12x2	125	138.00
1960060G5	2000	Single	18x10x2	115	104.00
1960060G6	2000	"	18x12x2	100	95.00
1960060G7	2000	"	18x12x2	110	100.00
1960060G8	2000	"	18x12x2	110	100.00
1960062G5	3000	Double	28x12x2	180	187.00
1960062G6	3000	"	28x12x2	165	174.00
1960063G1	3000	Single	18x10x2	135	135.00
1960063G2	3000	"	18x12x2	120	123.00
1960063G3	3000	"	18x12x2	115	129.00
1960063G4	3000	"	18x12x2	115	129.00

Type LG-116 G-E Disconnecting Switches

Single-pole, Single and Double Throw

Indoor Type—Unmounted

15000 Volts



For 15000 and 25000 volts all switches are equipped with universal type insulators. This type of insulator is applied as far as possible to all devices of common voltage rating. These switches are mounted on oval metal bases which can be fastened to flat surface or pipe. For flat surface mounting two suitable 1/2-inch bolts are required.

Back connected switches, 1200 amperes and below, include 2 nuts and 1 terminal per stud.

Front connected switches, 1200 amperes, inclusive, are equipped with a complete set of terminals.

Do not fail to order one or more switch hooks with each equipment unless previously provided.

Cat. No.	Cap. Amps.	Throw	CONNECTIONS		Shipping Wt., Lbs.	Price Each
			Hinge Clips	Contact Clips		
1918400G3	300	Single	Front	Front	40	\$22.00
1918400G4	300	Double	"	"	55	30.00
1918407G3	300	Single	Back	Back	60	30.00
1918407G4	300	Double	"	"	75	43.00
1918414G3	300	Single	Front	"	50	27.00
1918414G4	300	Double	Back	Front	50	27.00
1918428G1	300	Double	Front	2 Back	70	39.00
1918428G2	300	"	Back	2 Front	65	34.00
1918428G3	300	"	"	{ 1 " }	70	39.00
				{ 1 Back }		
1918428G4	300	"	Front	{ 1 Front }	65	34.00
				{ 1 Back }		
1918401G3	600	Single	"	Front	50	31.00
1918401G4	600	Double	"	"	60	41.00
1918408G3	600	Single	Back	Back	75	46.00
1918408G4	600	Double	"	"	100	64.00
1918415G3	600	Single	Front	"	60	39.00
1918415G4	600	"	Back	Front	60	39.00
1918429G1	600	Double	Front	2 Back	85	56.00
1918429G2	600	"	Back	2 Front	75	50.00
1918429G3	600	"	"	{ 1 " }	85	56.00
				{ 1 Back }		
1918429G4	600	"	Front	{ 1 Front }	75	50.00
				{ 1 Back }		
1918402G3	800	Single	"	Front	55	37.00
1918402G4	800	Double	"	"	70	51.00
1918409G3	800	Single	Back	Back	85	64.00
1918409G4	800	Double	"	"	105	92.00
1918416G3	800	Single	Front	"	70	54.00
1918416G4	800	Single	Back	Front	70	54.00
1918430G1	800	Double	Front	2 Back	95	81.00
1918430G2	800	Double	Back	2 Front	80	70.00
1918430G3	800	"	"	{ 1 " }	95	81.00
				{ 1 Back }		
1918403G4	800	"	Front	{ 1 Front }	80	70.00
				{ 1 Back }		

**Type LG-116 G-E Disconnecting Switches****Single-pole, Single and Double Throw
Indoor Type—Unmounted**

Mounted on oval metal bases for flat surface on 1¼-inch pipe mounting. Pipe not included.

15000 Volts

Cat. No.	Capacity Amperes	Throw	CONNECTIONS		Shipping Wt., Lbs.	Price Each
			Hinge Clip	Contact Clip		
1918403G3	1200	Single	Front	Front	65	\$52.00
1918403G4	1200	Double	"	"	100	69.00
1918410G3	1200	Single	Back	Back	110	81.00
1918410G4	1200	Double	"	"	160	115.00
1918417G3	1200	Single	Front	"	90	69.00
1918417G4	1200	"	Back	Front	90	69.00
1918431G1	1200	Double	Front	2 Back	145	102.00
1918431G2	1200	"	Back	2 Front	125	90.00
1918431G3	1200	"	"	1 " }	145	102.00
				1 Back }		
1918431G4	1200	"	Front	1 Front }	125	90.00
				1 Back }		
1959909G1	1600	Single	"	Back	90	126.00
1959909G2	1600	"	Back	"	100	156.00
1959909G3	1600	"	"	Front	90	126.00
1959909G4	1600	"	"	Back	100	156.00
1959909G5	1600	"	"	"	100	156.00
1959768G1	1600	"	Front	"	90	126.00
1959768G2	1600	"	"	Front	80	90.00
1959768G3	1600	"	Back	"	90	126.00
1959768G4	1600	"	"	Back	100	156.00
1959910G1	2000	"	Front	"	100	153.00
1959910G2	2000	"	Back	"	110	185.00
1959910G3	2000	"	"	Front	100	153.00
1959910G4	2000	"	"	Back	110	185.00
1959910G5	2000	"	"	"	110	185.00
1959769G1	2000	"	Front	"	100	153.00
1959769G2	2000	"	"	Front	90	112.00
1959769G3	2000	"	Back	"	100	153.00
1959769G4	2000	"	"	Back	110	185.00

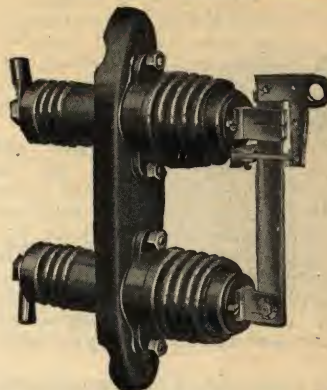
25000 Volts

1918435G3	300	Single	Front	Front	65	\$27.00
1918435G4	300	Double	"	"	95	37.00
1918438G3	300	Single	Back	Back	95	59.00
1918438G4	300	Double	"	"	125	86.00
1918441G3	300	Single	Front	"	75	45.00
1918441G4	300	"	Back	Front	75	45.00
1918447G1	300	Double	Front	Back	115	75.00
1918447G2	300	"	Back	Front	105	61.00
1918447G3	300	"	"	1 " }	115	75.00
				1 Back }		
1918447G4	300	"	Front	1 Front }	105	61.00
				1 Back }		
1918436G3	600	Single	"	Front	75	37.00
1918436G4	600	Double	"	"	100	51.00
1918439G3	600	Single	Back	Back	110	78.00
1918439G4	600	Double	"	"	150	113.00
1918442G3	600	Single	Front	"	85	61.00
1918442G4	600	"	Back	Front	85	61.00
1918448G1	600	Double	Front	Back	135	96.00
1918448G2	600	"	Back	Front	120	78.00
1918448G3	600	"	"	1 " }	135	96.00
				1 Back }		
1918448G4	600	"	Front	1 Front }	120	78.00
				1 Back }		
1918437G3	800	Single	"	Front	80	44.00
1918437G4	800	Double	"	"	110	62.00
1918440G3	800	Single	Back	Back	120	106.00
1918440G4	800	Double	"	"	160	152.00
1918443G3	800	Single	Front	"	95	82.00
1918443G4	800	"	Back	Front	95	82.00
1919449G1	800	Double	Front	Back	145	126.00
1918449G2	800	"	Back	Front	125	104.00
1918449G3	800	"	"	1 " }	145	126.00
				1 Back }		
1918449G4	800	"	Front	1 Front }	125	104.00
				1 Back }		

Half Yokes With Nuts

When it is desired to mount the Type LG-116 switches on 1¼-inch pipe (not included) add for each switch two ½-inch half yokes with nut for clamping base to pipe.

Price, No. 195406 Half Yoke with Nut each \$12

**G-E Combination Safety Catches
and Opening Devices****For Type LG-116 Disconnecting Switches**

These combination safety catches and opening devices are for use on single-throw switches only. Prices on combinations for double-throw switches will be furnished upon application.

They must be used together in combination form and neither can be used separately.

Prices on combinations for double-throw switches may be had on application.

These devices permit of the release of the catch and the opening

of the switch with one operation of the switch hook.

Cat. No.	Volts	Cap. Amps.	Contact Connection	Approx. Ship. Wt., Lbs.	Price Each
1995990G8	2500	300	Front	3	\$3.50
			Back		
1995990G9	2500	600	Front	3	4.00
			Back		
1995990G10	2500	800	Front	4	7.00
			Back		
1995990G11	2500	1200	Front	4	8.50
			Back		
1995990G12	2500	1600	Front	5	13.50
			Back		
1995990G13	2500	2000	Front	5	15.00
			Back		
1995990G14	2500	3000	Front	6	16.50
			Back		
1995990G15	15000 and 25000	300	Front	3	4.00
1995990G16		300	Back	3	4.00
1995990G17		600	Front	3	4.50
1995990G18		600	Back	3	4.50
1995990G19		800	Front	4	7.00
1995990G20		800	Back	4	7.00
1995990G21	15000 15000 15000 15000 15000 15000	1200	Front	4	9.00
1995990G22		1200	Back	4	9.00
1995990G23		1600	"	5	19.00
1995990G24		1600	Front	5	15.00
1995990G25		2000	Back	5	20.00
1995990G26		2000	Front	5	16.50

G-E Switch Hooks**For Type LG-116 Disconnecting Switches**

Cat. No.	Maximum Voltage	Length of Handle, Feet	Shipping Wt., Lbs.	Price Each
65849	15000	4	10	\$3.00
65850	25000	8	15	7.00

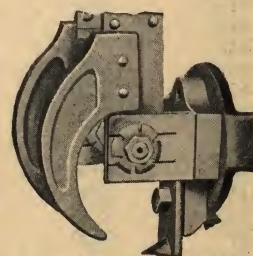
G-E 90 Degree Blade Stops**For Type LG-116 Disconnecting Switches**

It is often desirable to provide stops for switches in order to prevent them from accidentally coming in contact with other apparatus, or to prevent the closing of a double-throw switch in the wrong throw.

For use on all voltages, 2500 to 15000.

Cat. No.	Cap. Amps.	Shipping Wt., Lbs.	Price Each
1960395G1	300	1	\$4.00
1960395G2	600	1	4.00
1960395G3	800	1	4.00
1960395G4	1200	2	4.00
1960395G5	*1600	2	6.00
1960395G6	*2000	2	6.00
1960395G7	*3000	2	7.00

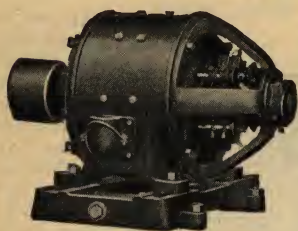
*Require two stops per switch.





Type RC G-E Continuous Rated Direct Current Motors

Constant Speed, Commutating Poles



This motor is superior to machines of non-commutating pole design in operation characteristics, freedom from sparking, and in general, as possessing a higher degree of all-day service efficiency.

Iron sliding bases and starting rheostats are included with standard belted motors. Semi or solid enclosing covers may be furnished on special order. The

use of solid enclosing covers increases the temperature rise of motors to which they are applied and therefore modifies the open ratings. Belt tightener attachments, consisting of cast iron ring with adjustable idler arm and idler pulley furnished on order.

The temperature of open, semi-enclosed and enclosed self-ventilated Type RC Motors, operating at full load and rated voltage, will not exceed 50 degrees C. on any part except the commutator, which will not exceed 65 degrees C. For 115 volt operation, semi-enclosed and all enclosed non-ventilated ratings are slightly reduced in horse power output (compared to open ratings). When such motors are required, application should be made to the General Electric Co. All Type RC Motors are capable of 50 per cent momentary overload.

Allowable Variation from Rated Voltage

Motors will operate successfully at normal rated load at any voltage not more than 10 per cent above or below normal, but not necessarily in accordance with the standards of performance established for operation at normal rated voltage.

All standard Type RC shunt wound motors have speeds increased by field adjustments 15 per cent above normal, maintaining rated output.

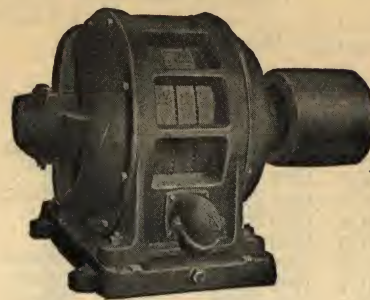
Open and Self-ventilated Ratings for Type RC Motors

Standard Shunt or Compound Windings

Frame No.	Net Wt., Lbs. Bare Motor	Horse Power	SPEED, R. P. M.		
			115 & 230 V.	550 V.	
21A	60	1/2	1700	.....
21B	70	3/4	1700	2000	
22	75	1	1700	2000	
23B	95	1	1150	1300	
23B	95	1 1/2	1700	2000	
24	120	2	1700	2000	
25	180	2	1150	1300	
25	180	3	1700	1900	
26A	270	3	1150	1300	
26A	270	5	1700	1900	
27A	355	5	1150	1300	
27A	355	7 1/2	1700	1800	
27B	435	7 1/2	1150	1300	
27B	435	10	1700	1800	
49A	445	7 1/2	850	900	
49A	445	10	1150	1250	
49A	445	15	1700	1800	
49	510	10	850	900	
49	510	15	1150	1250	
50	635	15	850	900	
50	635	20	1150	1250	
51	810	25	1150	1250	
51B	1040	20	800	875	
51B	1040	30	1150	1250	
52	1260	25	800	975	
52	1260	40	1150	1300	
53	1430	30	825	950	
53	1430	50	1125	1275	
54	1725	40	800	925	
54	1725	60	1100	1250	
55	2230	50	750	875	
55	2230	75	*1050	1200	
56	2810	60	700	700	
57	3520	75	*675	.....

*Not furnished for 115 volts.
Prices upon application.

Types KT and KQ G-E Standard Polyphase Induction Motors



Type KT Form B
Skeleton Frame Motor

The following is a partial list of General Electric Constant Speed, Belt Drive, Standard and Semi-standard Induction Motors for use on two and three-phase circuits of the voltages and frequencies given. Further data and prices may be obtained upon application; other ratings and speeds are also available.

Types KT and KQ have squirrel cage rotors and are designed for constant speed service.

60 Cycles

H.P.	Speed R.P.M.	Volts	H.P.	Speed R.P.M.	Volts
1/2	1200	110-220-440-550	10	1200	220-440-550
3/4	1200	110-220-440-550	10	1800	220-440-550
3/4	1800	110-220-440-550	15	900	220-440-550
1	1200	110-220-440-550	15	1200	220-440-550
1	1800	110-220-440-550	15	1800	220-440-550
1 1/2	1200	110-220-440-550	20	900	220-440-550
1 1/2	1800	110-220-440-550	20	1200	220-440-550
2	1200	110-220-440-550	20	1800	220-440-550
2	1800	110-220-440-550	25	900	220-440-550-2200
3	1200	-220-440-550	25	1200	220-440-550-2200
3	1800	220-440-550	30	900	220-440-550-2200
.5	1200	220-440-550	30	1200	220-440-550-2200
5	1800	220-440-550	40	900	220-440-550-2200
7.5	1200	220-440-550	40	1200	220-440-550-2200
7.5	1800	220-440-550	50	900	220-440-550-2200
10	900	220-440-550	50	1200	220-440-550-2200

25 Cycles

H.P.	Speed R.P.M.	Volts	H.P.	Speed R.P.M.	Volts
1/4	750	110-220-440-550	7.5	1500	220-440-550
1/4	1500	110-220-440-550	10	500	220-440-550
1/2	750	110-220-440-550	10	750	220-440-550
1/2	1500	110-220-440-550	15	500	220-440-550
1	750	110-220-440-550	15	750	220-440-550
1	1500	110-220-440-550	20	500	220-440-550
2	750	110-220-440-550	20	750	220-440-550
2	1500	110-220-440-550	25	500	220-440-550
3	750	-220-440-550	25	750	220-440-550
3	1500	110-220-440-550	30	500	220-440-550
5	750	-220-440-550	40	750	220-440-550-2200
5	1500	-220-440-550	50	500	220-440-550-2200
7.5	500	220-440-550	50	750	220-440-550-2200
7.5	750	220-440-550	.....	.....	.....

40 and 50 Cycles

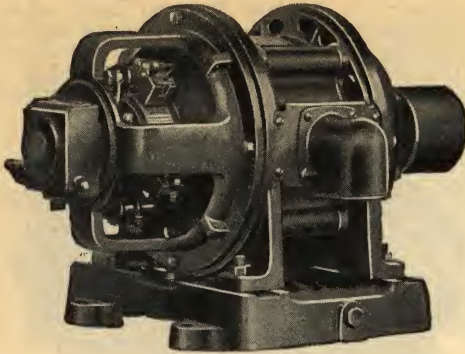
A complete line of 40 and 50-cycle motors can be furnished. Information furnished upon request.

Information on other types and sizes furnished upon application.



G-E Type SCR Single-phase Repulsion Induction Motors

Constant Speed
60 Cycles, 110 or 220 Volts



Designed for constant speed, with moderate or heavy starting torque. In starting direct from the line Type SCR motors take current approximately in proportion to torque. If desired to reduce current values during acceleration, Type CR1026 rheostats may be ordered at an extra charge.

H. P.	Speed R. P. M.	H. P.	Speed R. P. M.
1/2	1800		
1/2	1200	2	1200
3/4	1800	3	1800
3/4	1200	3	1200
1	1800	5	1800
1	1200	5	1200
1 1/2	1800	7 1/2	1800
1 1/2	1200	7 1/2	1200
2	1800	10	1800

Prices upon application.

G-E Type BSS Single-phase Varying Speed Motors

60 Cycles, 110 or 220 Volts



Controllers for brush shifting varying speed Type BSS motors are included in the price of all equipments. These controllers provide for a range approximately 50 per cent below synchronous speed through a suitable number of steps. Motors are intended to operate against full load torque.

H. P.	Speed R. P. M.	H. P.	Speed R. P. M.
*1/4	1800-900	2	1800-900
*1/4	1200-600	2	1200-600
*1/2	1800-900	3	1800-900
1/2	1200-600	3	1200-600
*3/4	1800-900	5	1200-600
1	1800-900	5	1800-900
1	1200-600	.	.....

*On this rating no base is furnished, motor has slotted feet.

Prices upon application.

Type SA G-E Motors

Form SI—Protected Type

110 Volts, 60 Cycles, Single-phase, A. C.



Readily adaptable for belted, geared or direct connection to the driven machine.

Cat. No. does not include pulley, or cord and plug.

Motors can be furnished wound for 220 volts. Also for 50, 40 and 25 cycles.

Cat. No.	Horsepower	Speed R. P. M.	Frame No.	Shipping Wt., Lbs.
*20005	1/2	1725	325	15
23971	1/2	1725	135	20
24815	1 1/2	1140	137	28
20159	1 1/2	1725	137	28
20001	1 1/6	1725	145	34
4015	1 1/6	1140	147	36
20003	1 1/4	1725	147	36

*Has wick oiled bearings.

Prices upon application.

Type RSA G-E Motors

Form B

110-220 Volts, 25 and 60 Cycles, Single-phase, A. C.



A constant speed high torque motor. The motor starts as a repulsion motor and at a predetermined speed, a centrifugal device short circuits the commutator and the motor then runs as an induction motor.

Cat. No. does not include pulley or cord and plug.

Motors can be furnished wound for 50 and 40 cycles.

60 Cycles				
Cat. No.	Horsepower	Speed R. P. M.	Frame No.	Shipping Wt., Lbs.
20081	1 1/2	1140	435	35
20077	1 1/8	1725	435	35
20082	1 1/6	1140	445	45
20078	1 1/4	1725	445	45
20083	1 3/8	1140	455	70
20079	1 1/2	1725	455	70
20084	1 1/2	1140	465	90
20080	3/4	1725	465	90
25 Cycles				
20085	1 1/8	1425	439	50
20086	1 1/4	1425	449	65
20087	1 1/2	1425	459	70
20088	3/4	1425	469	110

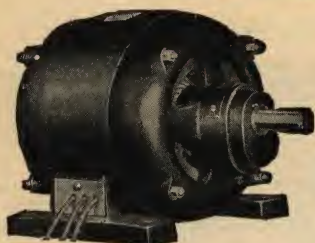
Prices upon application.



G-E Type RKT Motors

Oil Ring Motors

110 Volts, Three-phase A. C.



Cat. No. does not include pulley, or cord and plug.

Motors can be furnished wound for 220 volts.

Motors can also be furnished for use on two-phase circuits and are known as Type RKQ.

Cat. No.	Cycles	Horsepower	Speed R. P. M.	Frame No.	Shipping Wt., Lbs.
20089	60	$\frac{1}{8}$	1725	335	25
*20091	60	$\frac{1}{4}$	1725	435	35
*20094	60	$\frac{1}{2}$	1725	445	45
*23190	60	$\frac{3}{4}$	1725	455	65
20097	60	$\frac{1}{2}$	1140	335	25
20099	60	$\frac{1}{6}$	1140	435	35
20101	60	$\frac{1}{3}$	1140	445	45
26795	60	$\frac{1}{2}$	1140	455	65
20103	25	$\frac{1}{8}$	1425	435	35
20105	25	$\frac{1}{4}$	1425	439	50
20107	25	$\frac{1}{2}$	1425	449	60
26708	25	$\frac{3}{4}$	1425	469	110

*Can be furnished also for 440 volts. Prices upon application.

G-E Type SD Motors

Direct Current



Compound-wound motors except as noted. Cat. No. does not include pulley.

Form LB—110 Volts

Cat. No.	Horsepower	Speed R. P. M.	Frame No.	Shipping Wt., Lbs.
*20033	$\frac{1}{20}$	1725	325	20
24228	$\frac{1}{10}$	1725	234	24
20206	$\frac{1}{12}$	1140	236	26
20208	$\frac{1}{8}$	1725	236	26
20210	$\frac{1}{6}$	1140	246	36
20212	$\frac{1}{6}$	1725	244	30
20214	$\frac{1}{4}$	1725	246	36
†20216	$\frac{1}{3}$	1140	256	50
†20218	$\frac{1}{2}$	1725	256	50
†20220	$\frac{1}{2}$	1140	264	80
†20222	$\frac{3}{4}$	1725	264	80
†26792	$\frac{3}{4}$	1140	266	90
32 Volts, Constant Speed Continuous				
20224	$\frac{1}{8}$	1725	236	26
24222	$\frac{1}{8}$	1140	244	32
20225	$\frac{1}{6}$	1725	244	32
24223	$\frac{1}{6}$	1140	246	36
20226	$\frac{1}{4}$	1725	246	36
24224	$\frac{1}{3}$	1140	256	55
†20227	$\frac{1}{2}$	1725	256	55
†24225	$\frac{1}{2}$	1140	264	90
†20228	$\frac{3}{4}$	1725	264	90
†24226	$\frac{3}{4}$	1140	266	100

*Shunt wound.

†Require C. R. 1000 starting rheostat with undervoltage release.

Prices upon application.

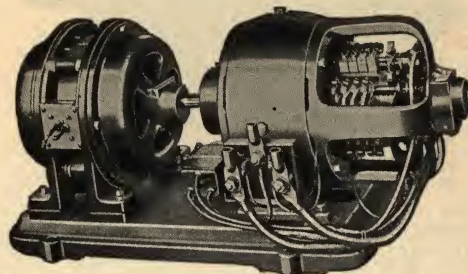
G-E Motor Generators

Constant Potential Equipment

For Battery Charging

A complete G-E Constant Potential Outfit consists of a motor-generator, a control panel with voltage regulator, and special charging leads for connecting the batteries to the busbars. Copper busbars can also be furnished in various lengths for mounting on the back of the charging bench.

Motor Generators



G-E Constant Potential Battery Charger

The motor-generator set is of three-bearing construction, and consists of a standard motor connected by a solid coupling to a specially designed shunt generator of the three-wire type wound for $7\frac{1}{2}$ and 15 volts. The two units are mounted on a substantial cast iron base, thereby assuring correct alignment.

The use of shunt windings only on the generator fields is made possible by the G-E Voltage Regulator. This type of winding has a decided advantage in that there is no tendency or the generator to reverse polarity during power failure.

Special brushes are used which insure long brush life and minimum wear on the commutator. The bearings are provided with the oil-ring system of lubrication, and the oil wells are large, holding a liberal supply. These features all tend to reduce the cost of maintenance to a minimum.

Voltage Regulators



Voltage Regulator

The G-E Voltage Regulator, when used with the special generator, holds the potential constant at the busbars.

At the factory the regulator is set to maintain the voltage at $7\frac{1}{2}$ and 15. The voltage to be held by the regulator can easily be changed by turning an adjusting screw that protrudes from the cover.

If desired, the generator may be operated as a straight shunt machine without the regulator, and in this case the voltage is adjusted by means of the field rheostat on the panel.

Control Panels

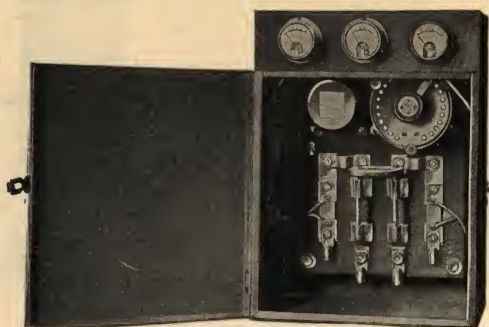
Control panels can be furnished in two types. The switch-type panel is part of the standard equipment. Special contactor-type panel can be furnished, which automatically disconnects the batteries on failure of the power supply, and reconnects them when power is resumed. It is obvious that the special panel involves more equipment and is necessarily more expensive.



G-E Motor Generators

Constant Potential Equipment

Standard Switch Type Panels



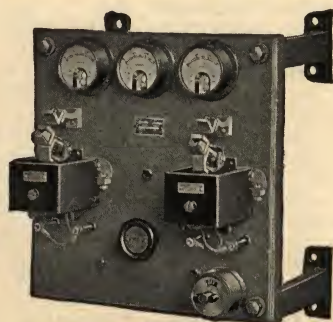
Standard Switch Type Cabinet Panel for Controlling 7 1/2/15-volt G-E Constant Potential Motor-generator Set

The standard control panel has the following equipment:

- Double-pole single-throw switch
- Two ammeters
- Voltmeter
- Voltage regulator
- Generator field rheostat
- Two fuses

This equipment is mounted on slate base and enclosed in a steel cabinet, affording protection to the parts of the apparatus.

Special Contactor Type Panels



Special Contactor Type Panel

The equipment on the special panel differs from the standard panel in that two self-closing contactors are used to connect the generator to the busbars instead of a hand-operated switch. These contactors cannot close until the generator voltage builds up to a value approximately equal to the battery voltage. In case of power failure, a relay on the back of the panel opens the contactors and immediately disconnects the generator from the batteries.

Special Resistance Leads

With each outfit, a number of special resistance leads, which are made up of nickel-silver stranded cable and equipped with 35-ampere battery clips on the ends are furnished.

The wire is covered with heavy rubber, and will give unusually long service even though exposed to acid fumes.

Three sizes of sets are available.

GENERATOR AMPERES		Motor H. P.	Approximate Capacity for 24 Hours Batteries
7 1/2 Volts	15 Volts		
200	100	3	36
300	150	5	54
500	250	7 1/2	90

*This rating is conservative and assumes that the average load throughout the day is approximately equal to 80 per cent of the full load rating.

Rockwood Paper Pulleys



A paper pulley overcomes in a large degree the annoyance and loss caused by a slipping belt. The lighter tension on the belt permits lighter shafting, hangers, etc., reduces consumption of oil and loss from hot bearings. Tighteners are not necessary.

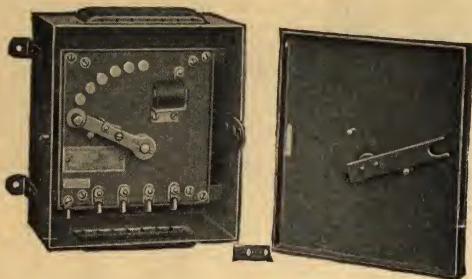
Rockwood Pulleys are used extensively on dynamos, motors, etc. Prices on larger sizes furnished upon request.

Diam. Inches	Face Inches	Price Each	Diam. Inches	Face Inches	Price Each	Diam. Inches	Face Inches	Price Each
2	2	\$2.00	7	7	\$3.80	12	14	\$11.70
2	3	2.05	7	8	4.15	12	15	12.75
2	4	2.10	7	9	4.50	12	16	13.85
2	5	2.20	7	10	4.95	12	17	15.10
2	6	2.35	7	11	5.45	12	18	16.35
2 1/2	2	2.05	7	12	6.00	13	3	4.50
2 1/2	3	2.10	8	3	3.40	13	4	4.75
2 1/2	4	2.15	8	4	3.45	13	5	5.05
2 1/2	5	2.25	8	5	3.55	13	6	5.45
2 1/2	6	2.40	8	6	3.75	13	7	5.90
3	2	2.10	8	7	4.00	13	8	6.40
3	3	2.15	8	8	4.30	13	9	6.95
3	4	2.20	8	9	4.70	13	10	7.55
3	5	2.30	8	10	5.10	13	11	8.25
3	6	2.45	8	11	5.60	13	12	9.00
3	7	2.65	8	12	6.20	13	13	11.80
3 1/2	2	2.15	8	13	6.80	13	14	12.80
3 1/2	3	2.20	9	3	3.55	13	15	13.95
3 1/2	4	2.25	9	4	3.65	13	16	15.20
3 1/2	5	2.35	9	5	3.75	13	17	16.45
3 1/2	6	2.50	9	6	3.95	13	18	17.60
3 1/2	7	2.70	9	7	4.20	13	19	19.20
3 1/2	8	2.95	9	8	4.50	14	3	4.75
4	2	2.20	9	9	4.90	14	4	5.00
4	3	2.25	9	10	5.30	14	5	5.30
4	4	2.30	9	11	5.80	14	6	5.70
4	5	2.40	9	12	6.40	14	7	6.10
4	6	2.55	9	13	7.00	14	8	6.60
4	7	2.75	10	3	3.75	14	9	7.20
4	8	3.00	10	4	3.80	14	10	7.80
4 1/2	2	2.25	10	5	3.95	14	11	8.50
4 1/2	3	2.30	10	6	4.15	14	12	9.25
4 1/2	4	2.35	10	7	4.40	14	13	10.05
4 1/2	5	2.45	10	8	4.70	14	14	13.15
4 1/2	6	2.60	10	9	5.05	14	15	14.25
4 1/2	7	2.80	10	10	5.50	14	16	15.50
4 1/2	8	3.05	10	11	6.00	14	17	16.75
4 1/2	9	3.35	10	12	6.55	14	18	17.75
5	2	2.30	10	13	8.65	14	19	19.50
5	3	2.35	10	14	9.45	14	20	21.00
5	4	2.40	10	15	10.35	14	21	22.60
5	5	2.50	10	16	11.35	15	3	5.00
5	6	2.65	11	3	4.00	15	4	5.30
5	7	2.85	11	4	4.15	15	5	5.70
5	8	3.10	11	5	4.30	15	6	6.10
5	9	3.40	11	6	4.55	15	7	6.60
5	10	3.75	11	7	4.90	15	8	7.20
5 1/2	2	2.35	11	8	5.25	15	9	7.80
5 1/2	3	2.40	11	9	5.70	15	10	8.50
5 1/2	4	2.45	11	10	6.20	15	11	9.25
5 1/2	5	2.55	11	11	6.75	15	12	10.05
5 1/2	6	2.70	11	12	7.40	15	13	10.95
5 1/2	7	2.90	11	13	9.70	15	14	14.30
5 1/2	8	3.15	11	14	10.55	15	15	15.45
5 1/2	9	3.45	11	15	11.55	15	16	16.75
5 1/2	10	3.80	11	16	12.60	15	17	18.10
6	3	3.05	11	17	13.75	15	18	19.20
6	4	3.15	11	18	14.95	15	19	21.00
6	5	3.25	12	3	4.25	15	20	22.60
6	6	3.45	12	4	4.45	15	21	24.25
6	7	3.70	12	5	4.70	15	22	25.95
6	8	4.00	12	6	5.00	16	3	5.30
6	9	4.40	12	7	5.40	16	4	5.70
6	10	4.80	12	8	5.80	16	5	6.10
6	11	5.30	12	9	6.30	16	6	6.60
7	3	3.20	12	10	6.90	16	7	7.20
7	4	3.25	12	11	7.50	16	8	7.80
7	5	3.40	12	12	8.20	16	9	8.50
7	6	3.55	12	13	10.75	16	10	9.25



Type CR1003 G-E Enclosed Heavy Duty Starting Rheostats

Under-voltage Protection—For Direct Current
For Series, Shunt or Compound-wound Motors



CR1003 rheostats are suitable for use with series, shunt or compound-wound direct current motors that do not require more than 150 per cent full load torque to start or longer than 30 seconds to attain full speed. They comply with E. P. C. Resistor Classification Nos. 34 and 35.

When ordering state Cat. No. of rheostat and horse power and voltage of motor.

32 Volts, Direct Current

Cat. No.	H. P. of Motor	Approx. Ship. Wt. Lbs.	Price Each
2021100G15	1/4	20	\$9.00
2021100G17	1/2	20	9.00
2021000G29	3/4-1	40	14.00
2021000G31	1 1/2-2	40	14.00
2042441G7	3	120	30.00
2042441G8	5	120	33.00

115 Volts, Direct Current

2021100G3	1/8-1/2	20	\$9.00
2021100G7	3/4-1	20	9.00
2021000G3	1 1/2-2	40	14.00
2021000G7	3	40	14.00
2021000G11	5	50	16.00
2042440G2	7 1/2	80	27.00
2042441G2	10	90	36.00
2042441G3	15	90	36.00
2042593G2	20	175	45.00
2042593G3	25	175	45.00
2042593G4	30	175	46.00
2042593G6	35	175	46.00

230 Volts, Direct Current

2021100G5	1/8-1/2	20	\$9.00
2021100G9	3/4-1	20	9.00
2021000G5	1 1/2-2	40	14.00
2021000G9	3	50	14.00
2021000G13	5	50	16.00
2021000G15	7 1/2	50	17.00
2042440G3	10	105	32.00
2042441G4	15	105	37.00
2042441G5	20	105	37.00

440 Volts, Direct Current

2046400G3	1/8-1/2	45	\$16.00
2046400G5	3/4-1	45	16.00
2046400G7	1 1/2-2	45	16.00
2046400G9	3	50	16.00
2046400G11	5	50	17.00
2046400G13	7 1/2	50	21.00
2046828G2	10	80	58.00
2046828G4	15	80	59.00
2046828G6	20	90	63.00

550 Volts, Direct Current

2046402G3	1/8-1/2	45	\$16.00
2046402G5	3/4-1	45	16.00
2046402G7	1 1/2-2	45	16.00
2046402G9	3	50	16.00
2046402G11	5	50	17.00
2046402G13	7 1/2	50	21.00
2046828G3	10	80	58.00
2046828G5	15	80	59.00
2046828G7	20	80	63.00

G-E CR1034 A. C. Hand-starting Compensators

For Squirrel Cage Induction Motors
With Under-voltage and Overload Protectors



Form N-1 or R-1
Cover Removed



Form N-1 or R-1 with
Ammeter Attachment

The CR1034 compensators consist of an auto-transformer winding with taps, a switching device, an under-voltage protective device, and two inverse-time overload relays, all self-contained within a sheet metal case. A handle, on the outside of the case, is provided for operating the switch.

Compensators for small and medium sized motors are known as CR1034-N1, N13 and R1, and are designed for wall mounting. The larger ones are known as CR1034P1 and P13 and are constructed for floor mounting.

Salient Features

- 1.—Under-voltage protection.
- 2.—Inverse time element overload protection.
- 3.—Separable conduit wiring case.
- 4.—Moisture resisting windings.
- 5.—Stop button in the front of the enclosing case.
- 6.—All covers may be locked on.
- 7.—Switch handle may be locked in the open position.
- 8.—Oil-immersed starting and running switch so constructed that all arcs are ruptured instantly.
- 9.—Switch handle cannot be left in the starting position.
- 10.—Switch handle cannot be moved to the running position without having first been thrown to the starting position.
- 11.—The compensator cover and oil tank are so interlocked that the removal of either will cause the switch to return to the off position.

Under-voltage Protection

Under-voltage protection is provided by a retaining magnet which holds the switch in the running position. Upon failure of voltage, it releases the switch, which automatically returns to the off position. The magnet is energized from full line potential for circuits of 600 volts or less, and from the 110-volt secondary of a potential transformer for circuits of higher voltage. The potential transformer, when required, is furnished as a part of the compensator and is included in the price.

Overload Protection

Overload protection is provided by means of two inverse time, gravity-reset overload relays so designed that both their time and current settings may be readily adjusted.

Ammeter Attachment

The ammeter attachment consists of a dead-beat indicating ammeter mounted on a pressed steel box. Knockouts for conduit wiring are provided in the top, bottom, and sides of the box, and in addition there are four 1/4-inch knockouts in the bottom of the box at the corners for bolting the attachment to the conduit wiring box of the compensator and four in the top at the corners that can be used for attaching a similar box containing other accessories such as a disconnecting switch.

Disconnecting Switch

A disconnecting switch attachment is recommended with each compensator installed where there is no other conveniently located switch that can be used to entirely disconnect the compensator from the line for inspection or repairs. It is furnished as a separate item to be mounted on the conduit box of the compensator at the time of installation. It is furnished complete with necessary terminals but without leads.



G-E CR1034 A.C. Hand-starting Compensators

For 40 or 50-deg. C. Squirrel Cage Induction Motors

Under-voltage and Overload Protection

Forms N1, N13, P1, P13 and R1

3-phase, 60 Cycles

H. P. of Motor	Volts	COMPENSATOR			AMMETER ATTACHMENT INCLUDES AMMETER		DISCONNECTING SWITCH ATTACHMENT	
		NR No.	Size No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
5	110	NR5001R-1	1	\$76.	2019325G6	\$32.	†	\$14.50
5	220	NR5002R-1	1	76.	2019325G4	30.	†	14.50
5	440	NR5003R-1	1	76.	2019325G2	28.	†	14.50
5	550	NR5004R-1	1	76.	2019325G1	28.	†	14.50
7½	110	NR5005R-1	1	78.	2019325G7	32.	†	14.50
7½	220	NR5006R-1	1	78.	2019325G5	32.	†	14.50
7½	440	NR5007R-1	1	78.	2019325G3	28.	†	14.50
7½	550	NR5008R-1	1	78.	2019325G2	28.	†	14.50
10	11½	NR5009R-1	1	80.	2019325G8	34.	†	14.50
10	220	NR5010R-1	1	80.	2019325G6	32.	†	14.50
10	440	NR5011R-1	1	80.	2019325G4	30.	†	14.50
10	550	NR5012R-1	1	80.	2019325G3	28.	†	14.50
15	110	NR5013R-1	1	82.	2019326G1	34.	†	14.50
15	220	NR5014R-1	1	82.	2019325G7	32.	†	14.50
15	440	NR5015R-1	1	82.	2019325G5	32.	†	14.50
15	550	NR5016R-1	1	82.	2019325G4	30.	†	14.50
20	220	NR5017R-1	1	84.	2019325G8	34.	†	14.50
20	440	NR5018R-1	1	84.	2019325G6	32.	†	14.50
20	550	NR5019R-1	1	84.	2019325G5	32.	†	14.50
20	2200	NR5020N-13	2	150.	2019340G1	50.	*	.....
25	220	NR5021R-1	1	86.	2019326G1	34.	†	14.50
25	440	NR5022R-1	1	86.	2019325G6	32.	†	14.50
25	550	NR5023R-1	1	86.	2019325G6	32.	†	14.50
25	2200	NR5024N-13	2	155.	2019340G2	50.	*	.....
30	220	NR5025R-1	1	88.	2019326G1	34.	†	14.50
30	440	NR5026R-1	1	88.	2019325G7	32.	†	14.50
30	550	NR5027R-1	1	88.	2019325G6	32.	†	14.50
30	2200	NR5028N-13	2	160.	2019340G2	50.	*	.....
40	220	NR5029N-1	2	125.	2019328G2	38.	1906677	16.00
40	440	NR5030R-1	1	90.	2019325G8	34.	†	14.50
40	550	NR5031R-1	1	90.	2019325G7	32.	†	14.50
40	2200	NR5032N-13	2	165.	2019340G3	50.	*	.....
50	220	NR5033N-1	2	130.	2019329G1	48.	1906677	16.00
50	440	NR5034R-1	1	94.	2019326G1	34.	†	14.50
50	550	NR5035R-1	1	94.	2019325G8	34.	†	14.50
50	2200	NR5036N-13	2	170.	2019340G4	50.	*	.....
60	220	NR5257N-1	2	135.	2019329G1	48.	1906677	16.00
60	440	NR5258N-1	2	135.	2019328G1	38.	1906677	16.00
60	550	NR5259N-1	2	135.	2019327G3	36.	1906677	16.00
60	2200	NR5260N-13	2	175.	2019340G4	50.	*	.....
75	220	NR5037N-1	2	140.	2019330G1	48.	1906677	16.00
75	440	NR5038N-1	2	140.	2019328G2	38.	1906677	16.00
75	550	NR5039N-1	2	140.	2019328G1	38.	1906677	16.00
75	2200	NR5040N-13	2	180.	2019340G5	50.	*	.....
100	220	NR5041N-1	3	200.	2019337G1	54.	*	.....
100	440	NR5042N-1	2	145.	2019329G1	48.	1906677	16.00
100	550	NR5043N-1	2	145.	2019328G2	38.	1906677	16.00
100	2200	NR5044N-13	2	185.	2019340G6	50.	*	.....
125	220	NR5261N-1	3	210.	2019338G1	56.	*	.....
125	440	NR5262N-1	2	150.	2019329G1	48.	1906677	16.00
125	550	NR5263N-1	2	150.	2019329G1	48.	1906677	16.00
125	2200	NR5264N-13	3	200.	2019340G6	50.	*	.....
150	220	NR5045P-1	4	400.	2019338G1	56.	*	.....
150	440	NR5046N-1	2	155.	2019330G1	48.	1906677	16.00
150	550	NR5047N-1	2	155.	2019329G1	48.	1906677	16.00
150	2200	NR5048N-13	3	210.	2019340G7	50.	*	.....
200	440	NR5049N-1	3	200.	2019337G1	54.	*	.....
200	550	NR5050N-1	3	200.	2019330G1	48.	*	.....
200	2200	NR5051N-13	3	220.	2019340G8	50.	*	.....
250	440	NR5052N-1	3	220.	2019338G1	56.	*	.....
250	550	NR5053N-1	3	220.	2019337G1	54.	*	.....
300	440	NR5055P-1	4	420.	2019338G1	56.	*	.....
300	550	NR5056P-1	4	420.	2019338G1	56.	*	.....

*Disconnecting switch is not available.

†Order a CR1923A1 Jack Type disconnecting switch Cat. No. 2040256 and adapter Cat. No. 2040400.

G-E CR1034 A.C. Hand-starting Compensators

For 40 and 50-deg. C. Squirrel Cage Induction Motors

Under-voltage and Overload Protection

Forms N1, N13, P1, P13 and R1

2-phase, 60 Cycles

H. P. of Motor	Volts	COMPENSATOR			AMMETER ATTACHMENT INCLUDES AMMETER		DISCONNECTING SWITCH ATTACHMENT	
		NR No.	Size No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
5	110	NR5177R-1	1	\$76.00	2019325G6	\$32.00	†	\$14.50
5	220	NR5178R-1	1	76.00	2019325G3	28.00	†	14.50
5	440	NR5179R-1	1	76.00	2019325G1	28.00	†	14.50
5	550	NR5180R-1	1	76.00	2019325G1	28.00	†	14.50
7½	110	NR5181R-1	1	78.00	2019325G6	32.00	†	14.50
7½	220	NR5182R-1	1	78.00	2019325G5	32.00	†	14.50
7½	440	NR5183R-1	1	78.00	2019325G2	28.00	†	14.50
7½	550	NR5184R-1	1	78.00	2019325G2	28.00	†	14.50
10	110	NR5185R-1	1	80.00	2019325G7	32.00	†	14.50
10	220	NR5186R-1	1	80.00	2019325G5	32.00	†	14.50
10	440	NR5187R-1	1	80.00	2019325G4	30.00	†	14.50
10	550	NR5188R-1	1	80.00	2019325G3	28.00	†	14.50
15	110	NR5189R-1	1	82.00	2019326G1	34.00	†	14.50
15	220	NR5190R-1	1	82.00	2019325G6	32.00	†	14.50
15	440	NR5191R-1	1	82.00	2019325G5	32.00	†	14.50
15	550	NR5192R-1	1	82.00	2019325G4	30.00	†	14.50
20	220	NR5193R-1	1	84.00	2019325G7	32.00	†	14.50
20	440	NR5194R-1	1	84.00	2019325G5	32.00	†	14.50
20	550	NR5195R-1	1	84.00	2019325G5	32.00	†	14.50
20	2200	NR5196N-13	2	165.00	2019340G1	50.00	*	.....
25	220	NR5197R-1	1	86.00	2019325G8	34.00	†	14.50
25	440	NR5198R-1	1	86.00	2019325G6	32.00	†	14.50
25	550	NR5199R-1	1	86.00	2019325G5	32.00	†	14.50
25	2200	NR5200N-13	2	170.00	2019340G1	50.00	*	.....
30	220	NR5201R-1	1	88.00	2019326G1	34.00	†	14.50
30	440	NR5202R-1	1	88.00	2019325G6	32.00	†	14.50
30	550	NR5203R-1	1	88.00	2019325G6	32.00	†	14.50
30	2200	NR5204N-13	2	175.00	2019340G2	50.00	*	.....
40	220	NR5205N-1	2	125.00	2019328G2	38.00	*	.....
40	440	NR5206R-1	1	90.00	2019325G7	32.00	†	14.50
40	550	NR5207R-1	1	90.00	2019325G6	32.00	†	14.50
40	2200	NR5208N-13	2	180.00	2019340G3	50.00	*	.....
50	220	NR5209N-1	2	130.00	2019328G2	38.00	*	.....
50	440	NR5210R-1	1	94.00	2019325G8	34.00	†	14.50
50	550	NR5211R-1	1	94.00	2019325G7	32.00	†	14.50
50	2200	NR5212N-13	2	185.00	2019340G4	50.00	*	.....
60	220	NR5281N-1	2	135.00	2019329G1	48.00	*	.....
60	440	NR5282N-1	2	135.00	2019328G1	38.00	*	.....
60	550	NR5283N-1	2	135.00	2019327G3	36.00	*	.....
60	2200	NR5284N-13	2	190.00	2019340G4	50.00	*	.....
75	220	NR5213N-1	2	140.00	2019329G1	48.00	*	.....
75	440	NR5214N-1	2	140.00	2019328G2	38.00	*	.....
75	550	NR5215N-1	2	140.00	2019328G1	38.00	*	.....
75	2200	NR5216N-13	2	195.00	2019340G5	50.00	*	.....
100	220	NR5217N-1	3	200.00	2019337G1	54.00	*	.....
100	440	NR5218N-1	2	145.00	2019328G2	38.00	*	.....
100	550	NR5219N-1	2	145.00	2019328G2	38.00	*	.....
100	2200	NR5220N-13	2	200.00	2019340G5	50.00	*	.....
125	220	NR5285N-1	3	210.00	2019338G1	56.00	*	.....
125	440	NR5286N-1	2	150.00	2019329G1	48.00	*	.....
125	550	NR5287N-1	2	150.00	2019328G2	38.00	*	.....
125	2200	NR5288N-13	3	240.00	2019340G6	50.00	*	.....
150	220	NR5221P-1	4	400.00	2019338G1	56.00	*	.....
150	440	NR5222N-1	2	155.00	2019330G1	48.00	*	.....
150	550	NR5223N-1	2	155.00	2019329G1	48.00	*	.....
150	2200	NR5224N-13	3	250.00	2019340G6	50.00	*	.....
200	440	NR5225N-1	3	210.00	2019337G1	54.00	*	.....
200	550	NR5226N-1	3	210.00	2019330G1	48.00	*	.....
200	2200	NR5227N-13	3	270.00	2019340G7	50.00	*	.....
250	440	NR5228N-1	3	230.00	2019338G1	56.00	*	.....
250	550	NR5229N-1	3	230.00	2019337G1	54.00	*	.....

3-phase—40 Cycles

Use 3-phase, 25-cycle prices. Do not specify NR number but give complete motor rating.

*Disconnecting switch is not available.

†Order a CR193A1 Jack Type disconnecting switch Cat. No. 2040256 and adapter Cat. No. 2040400.

Type CR1038 G-E A. C. Starting Switches

For Small A. C. Motors



No. 256911 Switch

The CR1038 Motor Starting Switch consists of a triple or four-pole, single-throw, quick-make and break switch and two thermal cutouts mounted on a base, totally enclosed in a sheet steel case with operating handle projecting through the front of the case. Cat. No. 256911 switch, is for use with three-phase or two-phase three-wire motors, while Cat. No. 258205 switch is for use with two-phase four-wire motors.

Overload protection is furnished by two inverse-time thermal cutouts. The cutouts are mounted by two metal strip terminals, each slotted for a holding-down screw.



Thermal Cutoff

By reason of the time lag in the heating coil, the momentary inrush starting current will not cause the thermal cutouts to open the circuit. The thermal cutouts protect the motor from such overloads as are ordinarily met with the service. Standard fuses must be used in series with the thermal cutouts.

Each switch is provided with a locking device.

Cat. No.	Description	H.P. Rating				Approx. Ship. Wt. Lbs.	Net Price Each
		110 V.	220 V.	440 V.	550 V.		
*256911	3-phase T-P., S-T Switch.....	3	5	7½	7½	25	\$9.00
258205	2-phase, 4-P., S-T Switch.....	3	5	5	5	30	11.00

*Cat. No. does not include thermal cutouts which must be ordered as a separate item by Cat. No.

Prices cover switch complete with two thermal cutouts and ten extra links. An allowance of \$1.25 net will be made for the omission of the thermal cutouts.

Prices of Additional Parts

Price,	Thermal Cutout with Spare Link	each	\$.90
"	Carton of 10 Cutouts, Assorted Ratings . . "		7.50
"	" " " One Rating	"	7.00
"	No. 167539, Fusible Link	per 10	.50
"	" 167539, " " " " " " " " " " " "	100	3.50
"	" 167539, " " " " " " " " " " " "	500	14.50

Cat. No.	Ampere Rating	Full Load Current of Motor in Amp.	Cat. No.	Ampere Rating	Full Load Current of Motor in Amp.
256913	0.8	0.59-0.70	256923	4.3	3.16- 3.77
256914	0.95	0.71-0.83	256924	5.1	3.78- 4.45
256915	1.1	0.84-0.96	256925	6.0	4.46- 5.25
256916	1.3	0.97-1.13	256926	7.1	5.26- 6.20
256917	1.5	1.14-1.31	256927	8.4	6.21- 7.35
256918	1.8	1.32-1.58	256928	10.0	7.36- 8.75
256919	2.1	1.59-1.84	256929	11.8	8.76-10.3
256920	2.5	1.85-2.19	256930	14.0	10.4-12.3
256921	3.0	2.20-2.63	256931	16.6	12.4-14.6
256922	3.6	2.64-3.15	256932	20.0	14.7-17.5

Fusible link, Cat. No. 167539 is the same for all thermal cutouts.

In ordering switches the Cat. No. of the switch and the Cat. No. of the thermal cutouts must be given on the order. Cat. No. of switch does not include the thermal cutouts.

Type CR2922-A1 G-E Pressure Governors For A.C. or D.C. Circuits



**Type CR2922-A1
Pressure Governor**

These governors are recommended for the automatic control of motor-driven pumps, air compressors, etc., and must always be used in connection with a suitable type of automatic starter. The relay is designed to handle the control circuit of any standard G - E automatic starter and only three control wires are necessary for connecting the pressure governor to the starter. These governors can be used on any liquid or gas system that will not corrode the Bourdon tube.

Pressure Governor To prevent fluctuations of pressure in the discharge pipe from affecting operation, the governor should be connected to the tank by an independent pipe and should not be connected to the discharge pipe from the pump. If this is not feasible, a small air tank of about 10-gallon capacity be placed between the pressure governor and the discharge pipe. A needle valve may also be found necessary to further prevent fluctuations which affect the operation of the governor.

Shipping weight, 75 pounds.

†30 Pounds

60 or 50 Cycles	Cat. No. 25 Cycles	Direct Current	Voltage of Circuit	PRESSURE in Lbs.		Min. Range in Lbs.*	Price Each
				Min. Cut-in	Max. Cut-out		
1776063G2	1776063G3		110	6	24	1.5	\$50.00
		1776063G3	115	6	24	1.5	50.00
1776063G3	1776063G4		220	6	24	1.5	50.00

†60 Pounds

1776063G12	1776063G13	.....	110	12	48	3 \$50.00
.....	.....	1776063G13	115	12	48	3 \$ 50.00
1776063G13	1776063G14	.....	220	12	48	3 \$ 50.00

†100 Pounds

1776063G22	1776063G23	110	20	80	5\$50.00
	1776063G23	115	20	80	5 50.00
1776063G23	1776063G24	220	20	80	5 50.00

†160 Pounds

1776063G32	1776063G33	110	32	128	8	\$50.00
.....	1776063G33	115	32	128	8	50.00
1776063G33	1776063G34	220	32	128	8	50.00

†300 Pounds

1776063G42	1776063G43	.....	110	60	240	15	\$50.00
		1776063G43	115	60	240	15	50.00
1776063G43	1776063G44	.....	220	60	240	15	50.00

†500 Pounds

1776063G52	1776063G53	.....	110	100	400	25	\$50.00
.....	.....	1776063G53	115	100	400	25	50.00
1776063G53	1776063G54	.....	220	100	400	25	50.00

†800 Pounds

1776063G62	1776063G63	110	160	640	40	\$50.00
.....	1776063G63	115	160	640	40	50.00
1776063G63	1776063G64	220	160	640	40	50.00

†1500 Pounds

1776063G72	1776063G73	110 300 1200	75	\$50.00
	1776063G73	115 300 1200	75	50.00
1776063G73	1776063G74	220 300 1200	75	50.00

*The stop post indicators on the governor may be brought close enough together to give this range between high and low pressures.

†The pound is the full pressure scale rating of the governor. Each governor has a maximum pressure adjustment as indicated in the table.

Ordering Directions

Order by catalogue number.

Prices for governors for pressures above or below those listed and for other voltages and frequencies will be furnished on application.

Type CR2927 G-E Diaphragm Pressure Switches

For Alternating and Direct Current

Double-Pole Double Break



CR2927 Pressure Switch
Cover Plates Removed

Application

CR2927 pressure switches are suitable for use in the pilot circuit of any standard G-E Automatic Starter up to 250 volts A. C. or D. C. or directly in the motor circuit for throwing small motors across the line.

When used for throwing A. C. motors directly across the line, they are limited in capacity to one H. P., 110 or 220 volts, single-phase or polyphase. When used for throwing D. C. motors across the line, they are limited in capacity to $\frac{1}{2}$ h. p., 32 volts; or one h. p., 115 or 230 volts.

They should not be recommended for controlling a D. C. motor direct, unless the characteristics of the motor and rules of the power company are such that the motor may be thrown directly across the line.

Construction

The switch consists of a cast iron case, a phosphor bronze pressure diaphragm, an adjusting spring, and a switch mechanism.

The base of the case is a bowl-shaped casting which is covered by the pressure diaphragm and which forms the compression chamber. The base is provided with feet, drilled for holding-down screws. A flat spring and locking arm provides quick-make and quick-break of the contacts.

The switch parts are all mounted on a flat casting screwed to the case. The switch is double-pole and double-break and will disconnect two lines to a motor. The double-break construction eliminates the necessity of using flexible leads to the moving contacts.

The moving contacts for each pole of the switch consist of two silver buttons fastened at opposite ends of a heavy copper bar. The two copper bars are fastened to opposite ends of insulating cross bar. Loose rivets and coiled springs insure equal pressure on each of the four contact buttons regardless of which one may be subjected to the most wear.

Connections for motor and line are plainly stamped on the casting near four insulating bushings through which the leads should enter. Terminal screws are located on the stationary contacts very convenient for wiring.

A $\frac{1}{8}$ -inch iron pipe, connected to the compression chamber, provides means for easy connection to a pressure line by means of a standard pipe or small hydraulic copper tubing.

Adjustments

The range of adjustment of each switch is given in the table below. Switches are shipped with the standard adjustment. Other adjustments are easily made by changing the setting of the adjusting screw which is drilled near the top for inserting a small rod. A small sealing lug is provided on the top of the case so that an ordinary wire seal can be inserted through it and the holes in the adjusting-screw to prevent unauthorized change of adjustment.

Cat. No.	ADJUSTMENT IN POUNDS PER SQUARE INCH						Approx. Ship. Wt. Lbs.	Price Each
	STANDARD Closes	STANDARD Opens	MINIMUM Closes	MINIMUM Opens	MAXIMUM Closes	MAXIMUM Opens		
1747356G1	35	50	5	15	80	100	14	\$13.00
1747356G2	100	125	20	40	165	180	14	\$3.00

The difference between the opening and closing values of a switch is a fixed value and cannot be changed.

Ordering Directions

Order by Cat. No. Switches will be shipped set for standard adjustment as indicated in the table above. Instructions for changing the adjustment are shipped with each switch.

G-E Type CR2931 Enclosed Float Switches

Forms A, B, C and D

For Alternating and Direct Current Motors



These switches are weatherproof and are suitable for either tank or sump operation. Shipment is made with the parts assembled for tank operation. If sump operation is desired, the operating parts can be easily reassembled.

All electrical parts are enclosed by a heavy cast-iron weather-proof case drilled and tapped at the top for $\frac{1}{4}$ -inch conduit.

These float switches have a continuous capacity of 30 amperes, either alternating or direct current up to 550 volts. They may be used for throwing motors directly on the line up to the following capacities given in the table below:

Circuit	H. P. of Motor	Volts	No. of Poles of Switch
A. C	{ 2	110-220	2
Single-phase	{ 3	440-550	2
A. C.	{ 3	110	2 or 4
2 or 3-phase	{ 5	220-440-550	2 " 4
D. C.	1	115-230-550	2

Forms G and H

These switches are of lighter construction than the A, B, C and D forms, and are for use only in the control circuit of any automatic starter where the number and size of contacts to be controlled does not exceed the limitations specified in the following table:

Maximum Permissible Voltage of Circuit	NUMBER OF CONTACTORS WHICH MAY BE OPERATED IN MULTIPLE AMPERE CAPACITY OF CONTACTORS			
	25	40	75	150
600 Volts, D. C.	..	4	..	3
600 " A. C.	2	..	2	..

The rupturing capacity of Forms G and H when used on ordinary inductive circuits is as follows:

DIRECT CURRENT CIRCUITS		ALTERNATING CURRENT CIRCUITS	
Volts	Amperes	Volts	Ampere
115	0.75	110 or 220	2.0
230	0.4	440 " 550	0.75
600	0.2	.....	....

All electrical parts are enclosed in a weatherproof enclosing case which is drilled and tapped at the bottom for $\frac{1}{2}$ -in. conduit. The moving contacts are actuated by a snap-action mechanism so that a quick break is assured.

For Throwing Small Motors Across the Line

Form A is to be clamped to the inside top edge of a tank. Range 10 inches to two feet.

Forms B and C are used for bolting to tank covers. Range of Forms B and C, 10 inches to $3\frac{1}{2}$ feet.

Form D is used for bolting to a tank cover and is operated by a chain and float.

Cat. No.	Form	No. of Poles	Approx. Ship. Wt. Lbs.	Price Each	Cat. No.	Form	No. of Poles	Approx. Ship. Wt. Lbs.	Price Each
141637	A	D-p	40	\$28.00	141645	C	D-p	75	\$34.00
141639	A	4-p	65	32.00	141647	C	4-p	100	38.00
141641	B	D-p	75	32.00	141649	D	D-p	65	*36.00
141643	B	4-p	100	36.00	141651	D	4-p	90	*40.00

For Control Circuits Only

Form G is operated by a chain and float.

Form H is rod-operated. Range, two inches to four feet nine inches.

1693134 G S-p 15 *\$14.00 1693135 H S-p 15 \$14.00

*Prices for Forms D and G switches include 15 feet of bronze chain. Add \$.15 net retail for each additional foot.

Ordering Directions

Order by CR Cat. No. and give the form letter and number of poles of the switch. Specify number of feet of chain required for Forms D and G switches.

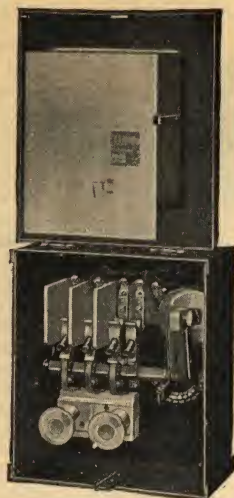
For further information as to form, dimensions, refer to G-E C. R. handbook.



G-E CR7005-A3 A.C. Enclosed Magnetic Switches



Closed



Open

The CR7005-A3 Enclosed Magnetic Switches are suitable for throwing small A.C. motors up to 3 h.p., 110 volts, 5 h.p., 220 volts; and 7½ h.p., 440, 550, and 600 volts, directly on the line. They consist of a triple-pole contactor or magnetically operated switch and a thermal cutout receptacle for two thermal cutouts mounted in a sheet steel enclosing case. Incoming leads are easily connected to the stationary contacts which are thoroughly insulated by means of moulded material of which the base is composed. Outgoing leads are connected directly to the porcelain base of the thermal cutouts.

Enclosing Case

The enclosing case is furnished with a hinged cover which may be locked shut if desired. The enclosing case is provided with ten ¾-inch knockout holes; three at the top, three at the bottom, and two at each side.

Thermal Cutouts

The thermal cutouts used with these switches are listed above and are the same as those used in the CR1038 Starting Switch. Detailed ratings, description, and operating characteristics of these cutouts will be found in section CR1038. Particular care should be used to select cutouts of the correct size.

In case of an overload, the links of the cutouts will open the motor circuit, but the line contactor will not open automatically. The door of the enclosing case cannot be opened until the contactor is opened, because of an interlock between them. A conspicuous name plate on the cover calls attention to the fact that the cover cannot be lifted until the magnetic switch is de-energized by pressing the stop-button. This insures the cutouts and their receptacles being dead before the operator can replace blown fuse links.

Under-voltage Protection or Under-voltage Release

The switch is ordinarily operated by means of a CR2940-BS79J "start" and "stop" push-button station. This station is of the momentary contact type and an extra pole is provided on the magnetic contactor to provide an electrical interlock for the holding circuit. If such a push-button station is used and the voltage fails, the contactor will open and will not close automatically on return of voltage, but the "start" button must be pressed to restart the motor. This scheme of connections provides "under-voltage protection." If desired, the switch may be controlled from a number of places simply by installing a suitable number of CR2940-BS79J Push-button Stations.

The switch may also be operated by any master switch of the single-pole single-throw type, as for example, a CR2940-BS30A Push-button Station, a CR2922 Pressure Governor, or a CR2930 or CR2931 Float Switch. In wiring up such switches the connections to the interlock on the contactor should be omitted. The equipment will then provide "under-voltage release" for, when voltage returns, if the master switch is closed, the contactor will close and start the motor automatically. Before deciding to use this scheme care should be taken to be sure that "under-voltage release," not "under-voltage protection" is required.

G-E CR7005-A3 A. C. Enclosed Magnetic Switches

For 3 or 2-phase Motors up to 3 H. P., 110 Volts; 5 H. P., 220 Volts; and 7½ H. P. 440, 550 and 600 Volts

Under-voltage Protection or Under-voltage Release Inverse-time Overload Protection

Prices include CR2940-BS79J push button station, two protective plugs, twelve extra links. Approximate shipping weight, 30 pounds.

3-pole Switches

Volts	CAT. NO. OF SWITCHES ONLY				*Price Each
	60 Cycles	50 Cycles	40 Cycles	25 Cycles	
110	1773587G19	1773587G16	1773587G9	1773587G2	\$20.00
220	1773587G2	1773587G17	1773587G10	1773587G3	20.00
440	1773587G3	1773587G11	1773587G18	1773587G4	20.00
550	1773587G11	1773587G12	1773587G13	1773587G6	20.00
600	1773587G18	1773587G20	1773587G14	1773587G7	20.00

4-pole Switches

110	1773588G19	1773588G16	1773588G9	1773588G2	\$25.00
220	1773588G2	1773588G17	1773588G10	1773588G3	25.00
440	1773588G3	1773588G11	1773588G18	1773588G4	25.00
550	1773588G11	1773588G12	1773588G13	1773588G6	25.00
600	1773588G18	1773588G12	1773588G14	1773588G7	25.00

*The CR2940-BS79J Push-button Station may be omitted at a reduction of \$2.00, and the two protective plugs at \$1.25

Prices of Additional Parts

Protective Plug with Spare Link	Price Each
Price	\$.90
" Carton of 10 Plugs, Assorted Ratings	7.50
" " " " " One Rating	7.00
Fusible Link, Cat. No. 167539	
Price, per 10	.50
" " 100	3.50
" " 500	14.50

The following table gives the Catalogue Number and ampere rating of each protective plug and the range of full load current of the motors with which each plug may be used.

Cat. No.	Ampere Rating	Full Load Current of Motor in Amperes
245553	0.8	0.59—0.70
245554	0.95	0.71—0.83
245555	1.1	0.84—0.96
245556	1.3	0.97—1.13
165217	1.5	1.14—1.31
245557	1.8	1.32—1.58
245558	2.1	1.59—1.84
245559	2.5	1.85—2.19
245560	3.0	2.20—2.63
245561	3.6	2.64—3.15
245562	4.3	3.16—3.75
245563	5.1	3.78—4.45
245564	6.0	4.46—5.25
245565	7.1	5.26—6.20
245566	8.4	6.21—7.35
165225	10.0	7.36—8.75
245567	11.8	8.76—10.3
245568	14.0	10.4—12.3
245569	16.6	12.4—14.6
167538	20.0	14.7—17.5

Fusible link, Cat. No. 167539 is the same for all plugs.

Ordering Directions

The Cat. No. of the switch does not include the push-button station or the two thermal cutouts. They must be ordered as separate items.

Order a switch by Cat. No.

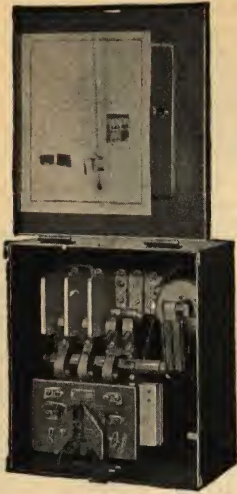
Order a push-button or master switch by complete rating.

Order two thermal cutouts for each switch by Cat. No.



G-E CR7006 Enclosed Magnetic Switches

For Alternating Current Motors



CR7006-D4

The CR7006 Enclosed Magnetic Switch consists of a three- or four-pole contactor and a two-coil hand-reset temperature overload relay enclosed in a sheet metal case.

With the exception of the contactor, the parts of the CR7006-D4 and D5 are similar. The contactor for the CR-7006-D4 switch is provided with barriers between the poles. The contactor for the CR7006-D5 is provided with magnetic blowouts. This switch should be used for motors larger than those for which the CR7006-D4 switch is recommended.

The three-pole forms are recommended for three-phase and two-phase three-wire motors and open all lines to the motor. The three-pole switch may be used with two-phase four-wire motors provided it is permissible

to leave one line of the circuit permanently connected to the motor. The four-pole switch should be used for two-phase four-wire motors when all lines must be opened. The CR7006-D5 switch cannot be furnished four-pole.

Overload Protection

Overload protection is provided by means of a temperature relay, which upon an overload opens the contactor. This relay has two heating elements, one connected in each of two phases, so that it provides full overload protection for single, two, or three-phase motors.

After the relay trips, the contacts must be reset by hand and a resetting device operated from the outside of the case is provided for the purpose. Provision is made for attaching a cord to the resetting device for convenience in resetting the relay when the switch is mounted above the reach of the operator.

Under-voltage Protection or Under-voltage Release

The switch is ordinarily operated by means of a CR2940-BS79J "start" and "stop" push-button station. This station is of the momentary contact type and an extra pole is provided on the magnetic contactor to provide an electrical interlock for the holding circuit. If such a push-button station is used and the voltage fails, the contactor will open and will not close automatically on return of voltage, but the "start" button must be pressed to restart the motor. This scheme of connections provides "under-voltage protection." If desired, the switch may be controlled from a number of places simply by installing a suitable number of CR2940-BS79J push-button stations.

The CR7006 switch may also be operated by means of any master switch of the single-pole single-throw type, as for example, by means of a CR2940-BS30A push-button station, a CR2922 pressure governor, a CR2925 or CR2927 pressure switch, a CR2930 or CR2931 float switch, etc. In wiring up switches of this type the connections to the interlock on the contactor should be omitted. The equipment will provide under-voltage release."

Enclosing Case

The enclosing case is provided with a hinged cover which may be locked shut if desired. It is provided with ten 3/4-inch knockout holes; three at the top, three at the bottom, and two at each side.

Ordering Directions

The price of the switch includes switch, overload relay, and push-button station; but the Cat. No. refers to switch. Order a switch by Cat. No.
Order a temperature overload relay by Cat. No.
Order a push-button or equivalent accessory.
Order a cover interlock Cat. No. 1773107, if desired.
Order a set of terminals Cat. No. 1774499, if the normal motor current is over 30 amperes.

G-E CR7006 Enclosed Magnetic Switches

For Alternating Current Motors

Overload Protection by Hand Reset Temperature Overload Relay
Under-voltage Protection or Under-voltage Release, Depending upon the Accessory Used. For Throwing Single-phase, Two-phase, or Three-phase Motors Directly on the Line

CR7006-D4 without Magnetic Blowouts				CR7006-D5 with Magnetic Blowouts			
		60 Cycles				60 Cycles	
Volts	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.	*Price Each	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.
110	1773589G19	\$27.0	1773590G19	\$32.0	1773855G19	\$34.0	
220	1773589G2	27.0	1773590G2	32.0	1773855G2	34.0	
440	1773589G3	27.0	1773590G3	32.0	1773855G3	34.0	
550	1773589G11	27.0	1773590G11	32.0	1773855G11	34.0	
600	1773589G18	27.0	1773590G18	32.0	1773855G18	34.0	

50 Cycles				50 Cycles			
Volts	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.	*Price Each	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.
110	1773589G16	\$27.0	1773590G16	\$32.0	1773855G16	\$34.0	
220	1773589G17	27.0	1773590G17	32.0	1773855G17	34.0	
440	1773589G11	27.0	1773590G11	32.0	1773855G11	34.0	
550	1773589G12	27.0	1773590G12	32.0	1773855G12	34.0	
600	1773589G20	27.0	1773590G20	32.0	1773855G20	34.0	

40 Cycles				40 Cycles			
Volts	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.	*Price Each	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.
110	1773589G9	\$27.0	1773590G9	\$32.0	1773855G9	\$34.0	
220	1773589G10	27.0	1773590G10	32.0	1773855G10	34.0	
440	1773589G18	27.0	1773590G18	32.0	1773855G18	34.0	
550	1773589G13	27.0	1773590G13	32.0	1773855G13	34.0	
600	1773589G14	27.0	1773590G14	32.0	1773855G14	34.0	

25 Cycles				25 Cycles			
Volts	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.	*Price Each	3-POLE Cat. No.	*Price Each	4-POLE Cat. No.
110	1773589G2	\$27.0	1773590G2	\$32.0	1773855G2	\$34.0	
220	1773589G3	27.0	1773590G3	32.0	1773855G3	34.0	
440	1773589G4	27.0	1773590G4	32.0	1773855G4	34.0	
550	1773589G6	27.0	1773590G6	32.0	1773855G6	34.0	
600	1773589G7	27.0	1773590G7	32.0	1773855G7	34.0	

†Maximum Ratings, CR7006-D4 without Magnetic Blowouts

Squirrel-cage Motors		Slip-ring Motors	
7½ H. P., 110 Volts		7½ H. P., 110 Volts	
10 H. P., 220 "		15 H. P., 220 "	
7½ H. P., 440 to 600 Volts		15 H. P., 440 to 600 Volts	

†Maximum Ratings, CR7006-D5 with Magnetic Blowouts

Squirrel-cage Motors		Slip-ring Motors	
7½ H. P., 110 Volts		7½ H. P., 110 Volts	
15 H. P., 220 "		15 H. P., 220 "	
35 H. P., 440 to 600 Volts		35 H. P., 440 "	
		40 H. P., 550 to 600 Volts	

*Prices are for the switch complete with a CR2824-TC121A Temperature Overload Relay and a CR2940-BS79J Push-button Station. The push-button station may be omitted at \$2.00. Additional thermal relays furnished for \$7.00 each.

†The switch is furnished with punched terminals which are rated 30 amperes maximum. Where the normal current of the motors exceeds 30 amperes, a set of punched tube terminals Cat. No. 1774499 should be ordered at no increase in price.

The following table gives the Cat. No. of the temperature relays and the range of full-load currents of the motors with which each may be used.

Cat. No.	Normal Rating in Amp.	Full Load Current of Motor in Amp.	Cat. No.	Normal Rating in Amp.	Full Load Current of Motor in Amp.
1746862G1	0.65	0.40-0.58	1746862G12	8.0	5.9-7.2
1746862G2	0.8	0.59-0.72	1746862G13	10.0	7.3-9.2
1746862G3	1.0	0.73-0.92	1746862G14	13.0	9.3-11.6
1746862G4	1.3	0.93-1.16	1746862G15	16.0	11.7-14.4
1746862G5	1.6	1.17-1.44	1746862G16	20.0	14.5-18.0
1746862G6	2.0	1.45-1.80	1746862G17	25.0	18.1-22.0
1746862G7	2.5	1.81-2.2	1746862G18	30.0	22.1-28.0
1746862G8	3.0	2.3-2.8	1746862G19	40.0	28.1-36.0
1746862G9	4.0	2.9-3.6	1746862G20	50.0	36.1-46.0
1746862G10	5.0	3.7-4.6	1746862G21	65.0	46.1-58.0
1746862G11	6.5	4.7-5.8	1746862G22	80.0	58.1-80.0



G-E CR7009 A. C. Enclosed Magnetic Reversing Switches

Overload Protection by Hand-reset Temperature Overload Relays

Under-voltage Protection or Under-voltage Release Depending Upon Accessory Used



CR7005-B5

For Reversing Single-phase, Two-phase or Three-phase Motors When Thrown Directly on the Line or When Used with Non-reversing Automatic Starters

The CR7009 switch consists of two three-pole mechanically interlocked contactors mounted back to back on a compound base, enclosed in a sheet metal case. The contact details of the contactors of the CR7009-B5 switch are the same as those of the CR7006-D4 magnetic switch and those of the CR7009-B6, the same as those of the CR7006-D5 magnetic switch.

The CR7009-B5 switch is suitable, as furnished, for use with single-phase, two-phase three-wire, or three-phase motors. When used with a two-phase four-wire motor, the reversing connections must be changed by the customer to agree with the diagram furnished. This

change can very easily be accomplished. Since this is a three-pole switch, one of the lines must run directly to the motor. It may also be used to control small direct-current motors (14-ft.-lb. torque or less) where the period of operation does not exceed 30 seconds and where the motor is not operated more than once in the same direction every five minutes.

The CR7009-B6 switch is made up in two forms, one for three-phase or two-phase three-wire, the other for two-phase four-wire. This switch is also suitable for controlling direct current motors on intermittent duty within the time limitations as given above for CR7009-B5. The contactors, being equipped with blowouts can be used with motors having a full load current of 75 amperes or less.

Overload Protection

These switches provide overload protection by means of a CR2824-TC121A temperature overload relay, which has two heating elements, one connected in each of two phases, so that it provides full overload protection for single-phase, two-phase or three-phase motors. The relay is provided with calibrating arms for adjusting the tripping value over a range from 80 to 120 per cent of its normal rating. A resetting device operated from the outside of the case is provided for the purpose of resetting the contacts.

Under-voltage Protection or Under-voltage Release

The CR7009 switch is ordinarily operated from one or more CR2940-BS13 push-button stations, the combination providing under-voltage protection. It may also be operated by means of a single-pole, double-throw master switch, in which case the connections to the interlock are omitted and under-voltage release is provided.

The top of the enclosing case is provided with small knockout holes for fastening the adapter (Cat. No. 1775956) which is necessary when a CR1923-A1 disconnecting switch is used. The CR1923-A1 switch provides a convenient means for disconnecting the CR7009 switch and motor from the line for purposes of inspection and repairs.

Enclosing Case

The enclosing case is fitted with feet for wall-mounting, so arranged that the base, on which the contactors are mounted is perpendicular to the wall. Knockout holes for conduit fittings are provided at the top of the case close to the edge nearest the wall.

Ordering Directions

The price of the switch includes switch complete with a CR2824-TC121A overload relay. Cat. No. refers to switch.

Order a CR7009 switch by Cat. No.

Order a CR2824-TC121A relay by Cat. No.

Order a CR2940-BS13 push-button station, or equivalent master switch.

Order, if desired, a CR1923-A1 disconnecting switch by Cat. No. with an adapter, Cat. No. 1775956.

G-E CR7009 A. C. Enclosed Magnetic Reversing Switches

Continued

Maximum Ratings

CR7009-B5, without Magnetic Blowouts

10 H. P., 110/220 Volts
7½ H. P., 440/650 Volts

CR7009-B6, with Magnetic Blowouts

10 H. P., 110 Volts; 25 H. P., 220 Volts
35 H. P., 440 Volts; 40 H. P., 550/650 Volts

CR7009-B5 without Magnetic Blowouts				60 Cycles CR7009-B6 with Magnetic Blowouts			
3-PHASE; 2-PHASE 3-WIRE or 4-WIRE				3-PHASE 2-PHASE, 3-WIRE			
Volts	Cat. No.	Price Each		Volts	Cat. No.	Price Each	
110	1775445G19	\$50		110	1775446G19	\$60	1776806G19 \$60
220	1775445G2	50		220	1775446G2	60	1776806G2 60
440	1775445G3	50		440	1775446G3	60	1776806G3 60
550	1775445G11	50		550	1775446G11	60	1776806G11 60
600	1775445G18	50		600	1775446G18	60	1776806G18 60
650	1775445G12	50		650	1775446G12	60	1776806G12 60
				50 Cycles			
110	1775445G16	\$50		110	1775446G16	\$60	1776806G16 \$60
220	1775445G17	50		220	1775446G17	60	1776806G17 60
440	1775445G11	50		440	1775446G11	60	1776806G11 60
550	1775445G12	50		550	1775446G12	60	1776806G12 60
600	1775445G20	50		600	1775446G20	60	1776806G20 60
650	1775445G13	50		650	1775446G13	60	1776806G13 60
				25 Cycles			
110	1775445G2	\$50		110	1775446G2	\$60	1776806 2 \$60
220	1775445G3	50		220	1775446G3	60	1776806 3 60
440	1775445G4	50		440	1775446G4	60	1776806 4 60
550	1775445G6	50		550	1775446G6	60	1776806 6 60
600	1775445G7	50		600	1775446G7	60	1776806 7 60
650	1775445G8	50		650	1775446G8	60	1776806 8 60

**D. C. Intermittent Duty Only

115	1775445G27	\$50	1775446G28	\$60	.....
230	1775445G28	50	1775446G27	60	.....
550	1775445G29	50	1775446G29	60	.....

*Price includes switch complete with a CR2824-TC121A overload relay; Cat. No. covers the switch only. A suitable relay should also be ordered by Cat. No. from the table under Accessories.

**May be used for throwing small direct-current motors on the line on applications where either contactor coil will not be energized more than once every five minutes, no longer than 30 seconds at a time.

Accessories

TEMPERATURE RELAY.—May be omitted at \$7.00.

PUSH-BUTTON STATION.—A CR2940-BS13 three-button station should be included at a net price of \$7.00.

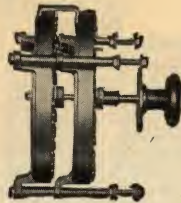
MASTER SWITCH.—A single point, forward and reverse, master switch may be used in preference to a push-button station. Such a master switch is CR2960-SY58A at \$15.00.

DISCONNECTING SWITCHES.—A Cat. No. 2040256 switch, at a price of \$14.00, is recommended for use with these reversing switches. If used, an adapter, Cat. No. 1775956, at 50 cents, is necessary for mounting the disconnecting switch on the enclosing case of CR7009.

Cat. No.	Relay Symbol	Normal Rating in Amperes	Full Load Current of Motor in Amperes
1746862G1	TC121A1	0.65	0.40-0.58
1746862G2	TC121A2	0.8	0.59-0.72
1746862G3	TC121A3	1.0	0.73-0.92
1746862G4	TC121A4	1.3	0.93-1.16
1746862G5	TC121A5	1.6	1.17-1.44
1746862G6	TC121A6	2.0	1.45-1.80
1746862G7	TC121A7	2.5	1.81-2.2
1746862G8	TC121A8	3.0	2.3-2.8
1746862G9	TC121A9	4.0	2.9-3.6
1746862G10	TC121A10	5.0	3.7-4.6
1746862G11	TC121A11	6.5	4.7-5.8
1746862G12	TC121A12	8.0	5.9-7.2
1746862G13	TC121A13	10.0	7.3-9.2
1746862G14	TC121A14	13.0	9.3-11.6
1746862G15	TC121A15	16.0	11.7-14.4
1746862G16	TC121A16	20.0	14.5-18.0
1746862G17	TC121A17	25.0	18.1-22.0
1746862G18	TC121A18	30.0	22.1-28.0
1746862G19	TC121A19	40.0	28.1-36.0
1746862G20	TC121A20	50.0	36.1-46.0
1746862G21	TC121A21	65.0	46.1-58.0
1746862G22	TC121A22	80.0	58.1-80.0

**G-E CR8000 and CR8001 Plate Type D.C.
Field Rheostats**

10, 12 and 15-inch Plates

**CR8000 Front of
Panel Mounting****CR8001 Back of
Panel Mounting**

125 Volts

Ohms	AMPERE CAPACITY		No. of Plates in Multiple	Diam. in In.	CR8000 FOR FRONT OF PANEL MOUNTING		CR8001 FOR BACK OF PANEL MOUNTING	
	First Step	Last Step			Cat. No.	*Price Each	Cat. No.	*Price Each
353	1.5	0.71	1	10	108484	\$8	108485	\$10
300	0.5	0.25	1	10	43576	8	43577	10
286	2	1	1	10	108486	8	108487	10
240	0.63	0.32	1	10	43578	8	43579	10
210	2.8	1	1	10	108488	8	108489	10
200	0.75	0.38	1	10	43580	8	43581	10
175	3	1	1	10	108490	8	108491	10
150	1	0.5	1	10	43582	8	43583	10
146	4.5	1	1	12	108492	9	108493	11
120	1.25	0.63	1	10	43584	8	43585	10
100	1.5	0.75	1	10	43586	8	43587	10
100	5.5	1.7	1	12	108494	9	108495	11
88	6	2	2	12	108496	17	108497	19
75	2	1	1	10	43588	8	43589	10
70	9	1.4	2	12	108498	17	108499	19
60	2.5	1.25	1	10	43590	8	43591	10
55	10	2	2	12	108500	17	108501	19
50	3	1.5	1	10	43592	8	43593	10
45	14	2.4	2	15	108502	24	108503	26
42	16.5	3	3	15	108504	35	108505	37
37.5	4	2	1	10	43594	8	43595	10
30	5	2.5	1	12	43596	9	43597	11
30	21	3.6	3	15	108506	35	108507	37
25	6	3	1	12	43598	9	43599	11
22.5	28	4.8	4	15	108508	48	108509	50
22	12	4	2	12	61794	17	61795	19
18.8	8	4	1	12	43600	9	43601	11
15	10	5	1	15	43602	13	43603	15
15	14	6	2	12	61718	17	61719	19
15	18	6	2	15	61720	24	61721	26
12.5	12.5	6.3	2	12	64636	17	64637	19
12	25	7.5	3	15	61722	35	61723	37
9.4	16	8	2	12	43606	17	43607	19
7.5	20	10	2	15	43608	24	43609	26
6.3	25	12.5	3	15	64638	35	64639	37
6	30	12	3	15	61724	35	61725	37
5	30	15	3	15	43612	35	43613	37
3.75	40	20	4	15	43614	48	43615	50

250 Volts

300	1	0.5	1	10	43620	\$8	43621	\$10
240	1.25	0.63	1	10	43622	8	43623	10
200	1.5	0.75	1	10	43624	8	43625	10
150	2	1	1	10	43626	8	43627	10
120	2.5	1.25	1	12	43628	9	43629	11
100	3	1.5	1	12	43630	9	43631	11
75	4	2	1	12	43632	9	43633	11
75	6	2	2	12	61726	17	61727	19
60	5	2.5	1	15	43634	13	43635	15
55	9	3	2	15	61728	24	61729	26
48	6.3	3.2	1	15	43636	13	43637	15
45	9	4	2	15	61732	24	61733	26
40	11	4	2	15	61730	24	61731	26
37.5	8	4	2	12	43638	17	43639	12
30	10	5	2	15	43640	24	43641	26
30	14	6.5	3	15	61780	35	61781	37
25	12.5	6.3	2	15	43642	24	43643	26
20	15	7.5	3	15	43644	35	43645	37
20	17	7	3	15	61778	35	61779	37
15	20	10	4	15	43646	48	43647	50

*Price is for rheostat with black polished handwheel.

**G-E CR8000 and CR8001 Plate Type D.C.
Field Rheostats**10, 12 and 15-inch Plates
Continued
550 Volts

Ohms	AMPERE CAPACITY		No. of Plates in Multiple	Diam. in In.	CR8000 FOR FRONT OF PANEL MOUNTING		CR8001 FOR BACK OF PANEL MOUNTING	
	First Step	Last Step			Cat. No.	*Price Each	Cat. No.	*Price Each
2000	0.6	0.3	1	15	49144	\$13.00	49145	\$15.00
1600	0.7	0.35	1	15	49146	13.00	49147	15.00
1300	0.76	0.38	1	15	49148	13.00	49149	15.00
1000	0.84	0.40	1	12	49150	9.00	49151	11.00
800	0.9	0.45	1	12	49152	9.00	49153	11.00
600	1	0.5	1	10	43652	8.00	43653	10.00
480	1.25	0.63	1	10	43654	8.00	43655	10.00
400	1.5	0.75	1	12	43656	9.00	43657	11.00
400	2	0.8	1	15	61792	13.00	61793	15.00
300	2	1	1	12	43658	9.00	43659	11.00
300	3	1.2	2	12	61786	17.00	61787	19.00
300	4	1.2	2	15	61788	24.00	61789	26.00
250	2.5	1.25	1	15	43660	13.00	43661	15.00
225	6.5	1.8	4	15	61784	48.00	61785	50.00
200	3	1.5	1	15	43662	13.00	43663	15.00
160	6	2.2	3	15	61782	35.00	61783	37.00
150	4	2	2	12	43664	17.00	43665	19.00
150	5	2	2	15	61790	24.00	61791	26.00
125	5	2.5	2	15	43666	24.00	43667	26.00
100	6	3	2	15	43668	24.00	43669	26.00
82	7.5	3.8	3	15	43670	35.00	43671	37.00
60	10	5	4	15	43672	48.00	43673	50.00

6-inch Plates

125 Volts								
400	1.25	0.25	1	6	1916254	\$5.00	1916255	\$7.00
352	1.3	0.27	1	6	1916252	5.00	1916253	7.00
300	1.4	0.33	1	6	1916250	5.00	1916251	7.00
250	1.5	0.38	1	6	1916248	5.00	1916249	7.00
200	1.6	0.45	1	6	1916246	5.00	1916247	7.00
150	1.7	0.56	1	6	1916244	5.00	1916245	7.00
103	1.93	0.75	1	6	1916242	5.00	1916243	7.00
70	2.2	1.0	1	6	1916240	5.00	1916241	7.00
60	2.4	1.1	1	6	1916238	5.00	1916239	7.00
40	2.7	1.45	1	6	1916236	5.00	1916237	7.00
30	3.0	1.75	1	6	1916234	5.00	1916235	7.00
20	3.4	2.2	1	6	1916232	5.00	1916233	7.00
15	4.0	2.7	1	6	1916230	5.00	1916231	7.00
10	4.5	3.3	1	6	1916228	5.00	1916229	7.00
5	6.5	5.2	1	6	1916226	5.00	1916227	7.00
3	8.0	6.7	1	6	1916224	5.00	1916225	7.00
2	9.0	8.0	1	6	1916222	5.00	1916223	7.00
1	10.0	10.0	1	6	1916220	5.00	1916221	7.00

250 Volts

600	0.8	0.28	1	6	1916218	\$5.00	1916219	\$7.00
480	0.85	0.31	1	6	1916216	5.00	1916217	7.00
400	0.90	0.37	1	6	1916214	5.00	1916215	7.00
300	1.0	0.45	1	6	1914895	5.00	1916213	7.00
250	1.1	0.50	1	6	1916210	5.00	1916211	7.00
200	1.2	0.60	1	6	1916208	5.00	1916209	7.00
150	1.3	0.75	1	6	1916206	5.00	1916207	7.00
125	1.4	0.83	1	6	1916204	5.00	1916205	7.00
100	1.6	0.98	1	6	1916202	5.00	1916203	7.00
75	1.7	1.13	1	6	1916200	5.00	1916201	7.00
60	1.9	1.3	1	6	1916198	5.00	1916199	7.00
50	2.0	1.43	1	6	1916196	5.00	1916197	7.00
40	2.3	1.58	1	6	1916194	5.00	1916195	7.00
30	2.6	2.0	1	6	1916192	5.00	1916193	7.00
20	3.0	2.42	1	6	1916190	5.00	1916191	7.00

550 Volts

3500	0.32	0.11	1	6	1915698	\$5.00	1915699	\$7.00
3000	0.35	0.12	1	6	1915696	5.00	1915697	7.00
2500	0.38	0.14	1	6	1915694	5.00	1915695	7.00
2000	0.40	0.165	1	6	1915692	5.00	1915693	7.00
1500	0.45	0.20	1	6	1915690	5.00	1915691	7.00
1000	0.50	0.26	1	6	1915688	5.00	1915689	7.00
800	0.55	0.31	1	6	1915686	5.00	1915687	7.00
600	0.65	0.38	1	6	1915684	5.00	1915685	7.00
500	0.70	0.43	1	6	1915682	5.00	1915683	7.00
400	0.75	0.48	1	6	1915680	5.00	1915681	7.00
300	0.85	0.58	1	6	1915678	5.00	1915679	7.00
250	0.90	0.64	1	6	1915676	5.00	1915677	7.00
200	1.0	0.73	1	6	1915674	5.00	1915675	7.00
150	1.1	0.85	1	6	1915672	5.00	1915673	7.00

*Price is for rheostat with black polished handwheel.



G-E CR2990 Thermostats

For A.C. or D.C. Circuits



Thermostat can be accurately adjusted for a wide variation in temperature.

Adjustment will not change from wear or vibration.

Wiping contacts are self-cleaning and do not affect adjustment.

The thermostat is ideal for installations where excessive vibration occurs, such as in railway service, etc. The small size (5 inches square) makes it inconspicuous and easily mounted.

Mechanism is of the quick-break type, supported on frictionless, long-wearing edges.

Will operate satisfactorily in damp places. Particularly suitable for refrigerator work.

All parts accessible and substantial.

Description	Volts	Amp. Cap. Contacts	Ship. Wt. Lbs.	Price Each
For Use on either Alternating or Direct Current Circuits.....	125	0.5	7	\$12.00
	230	0.25	7	12.00
	550	0.1	7	12.00

CR2904-A1 Open-phase and Phase-reversal Relays

25 to 60 Cycles, 500 Volts or Less

For use with any motor-starting device that provides under-voltage release or under-voltage protection for a motor of 3 H.P. or larger.

A CR2904-A1 panel consists of an open-phase and phase-reversal relay mounted on an insulating base and enclosed in a sheet metal case with knockout holes on top, bottom, and sides, and with hasp and staple for locking the cover closed. Used in connection with the control of a polyphase motor to prevent the motor from starting when a phase of the power circuit is open or reversed, and to cause the motor to be disconnected from the line when a phase of the circuit opens when the motor is running. The relay does not open the motor circuit itself but opens the control circuit to the contactor or circuit breaker which handles the main motor circuit. This makes this panel suitable for use with any hand or automatic control device that provides under-voltage release or under-voltage protection.



When the power circuit is normal, that is, when all the phases are intact and not reversed, with power either on or off the relay, the control circuit contacts are closed.

Cat. No.	Continuous Capacity Amperes	Min. Amp. for Operation	Approx. Ship. Wt., Lbs.	Price Each
1764492G2	3.0	1.8	50	\$38.00
1764492G3	4.5	2.7	50	38.00
1764492G4	6.7	4.0	50	38.00
1764492G5	10.0	6.0	50	38.00
1764492G6	15.0	9.0	50	38.00
1764492G7	21.0	12.6	50	38.00
1764492G8	34.0	20.4	50	38.00
1764492G9	50.0	25.0	50	38.00
1764492G10	75.0	37.5	50	38.00
1764492G11	110.0	55.0	50	38.00
1764492G12	175.0	87.5	50	38.00
1764492G13	250.0	125.0	50	38.00

Type CR8070 G-E Enclosed Field Rheostats

For Machine Tool Control Service
Plate Type, Hand-operated
230 Volts



6-inch Plate

Adapted for machine tool service as it is not affected by constant vibration. Totally enclosed and thereby meets safety requirements.

Consists of a cast iron frame containing a plate of cement in which resistor coils are embedded and securely held in place. The steel cover which serves as an enclosing case is removable. On frame of terminal outlet box is a removable face plate with outlet for 1/2 or 3/4-inch conduit.

The 6-inch plates have 24 divisions of resistance and the 12-inch plates have 50 divisions. Each division is soldered to resistor material, insuring good electrical connection.

The 6-inch size is equipped with a polished black wooden handle; the 12-inch size with metal handwheel having knobbed circumference to prevent slipping of operator's hand.

Suitable on lower voltages than 230 but should not be used on circuits above 300 volts.

Cat. No.	Ohms	First Step	Last Step	No. of Plates in Multiple	Diam. of Plates Inches	Approx. Ship. Weight Lbs.	Price Each
1914739	3050	0.65	0.068	1	6	12	\$12.00
1914738	2795	0.66	0.073	1	6	12	12.00
1914737	2314	0.66	0.086	1	6	12	12.00
1914736	2195	0.65	0.09	1	6	12	12.00
1914735	1770	0.71	0.11	1	6	12	12.00
1914734	1525	1.3	0.136	2	6	24	24.00
1914733	1397	1.32	0.146	2	6	24	24.00
1914732	1350	0.73	0.14	1	6	12	12.00
1914731	1250	0.77	0.148	1	6	12	12.00
1914730	1183	0.735	0.164	1	6	12	12.00
1914729	1097	1.3	0.18	2	6	24	24.00
1914728	1012	1.42	0.22	2	6	24	24.00
1914727	965	1.38	0.20	2	6	24	24.00
1914726	885	1.42	0.22	2	6	24	24.00
1914725	752	2.0	0.27	1	12	36	18.00
1914724	710	1.4	0.28	2	6	24	24.00
1914723	706	2.2	0.3	1	12	36	18.00
1914722	680	3.8	0.32	2	12	72	35.00
1914721	634	2.1	0.315	1	12	36	18.00
1914720	625	1.54	0.296	2	6	24	24.00
1914719	615	3.0	0.4	2	12	72	35.00
1914718	600	2.3	0.33	2	12	72	35.00
1914679	585	4.0	0.4	2	12	72	35.00
1914717	562	1.63	0.3	2	6	24	24.00
1914716	540	4.0	0.42	2	12	72	35.00
1914715	525	3.0	0.5	2	12	72	35.00
1914714	517	2.17	0.4	1	12	36	18.00
1914713	485	4.0	0.46	2	12	72	35.00
1914712	465	3.5	0.5	2	12	72	35.00
1914711	438	4.0	0.5	2	12	72	35.00
1914710	430	1.6	0.43	2	6	24	24.00
1914709	400	3.0	0.6	2	12	72	35.00
1914708	400	1.7	0.42	2	6	24	24.00
1914707	376	4.0	0.53	2	12	72	35.00
1914706	362	2.5	0.5	1	12	36	18.00
1914705	355	3.0	0.6	2	12	72	35.00
1914704	350	1.74	0.48	2	6	24	24.00
1914703	340	4.0	0.8	2	12	72	35.00
1914702	317	4.2	0.63	2	12	72	35.00
1914701	312	1.8	0.54	2	6	24	24.00
1914700	273	4.0	0.8	2	12	72	35.00
1914699	250	4.5	0.76	2	12	72	35.00
1914698	244	4.5	0.84	2	12	72	35.00
1914697	236	2.75	0.72	1	12	36	18.00
1914696	220	5.0	0.84	2	12	72	35.00
1914695	210	2.7	0.82	1	12	36	18.00
1914694	200	3.0	1.5	2	12	72	35.00
1914693	200	2.75	0.81	1	12	36	18.00
1914692	194	4.8	0.96	2	12	72	35.00
1914691	157	5.0	1.0	2	12	72	35.00
1914690	150	5.0	1.2	2	12	72	35.00



G-E CR9006 Enameled Resistor Units



Form QD

CR9006 Enameled Resistor Units employ a strong, high heat resisting silicate compound body developed to withstand sudden and extreme temperature changes without weakening or in any way being injured.

The resistance wire has a low temperature coefficient so that the resistance remains nearly constant as the temperature increases. The wire, after being wound on the body, is embedded in a blue vitreous enamel which is fused at a high temperature to a uniform, glassy structure.

The enamel is moistureproof, durable, and forms a mechanically strong and air-tight casing for the resistor windings.

Give the symbol and ohms resistance of the unit.

In case fuse clips are desired for mounting the QC units, the Cat. No. or punching number of the clip should be given.

Standard Resistance Values In Ohms *	Unit Symbol QLK1924025 QFK2155965 QSK1924034	Price Each \$.35 .50 .55	Unit Symbol QLK1924029 QCK2155968 QFK1924030	Price Each \$.50 .55 .55
	15-watt Enclosed Rating	22-watt Open Rating	38-watt Enclosed Rating	57-watt Open Rating
1	3.9	4.5	.....	.....
3	2.2	2.6	3.6	4.3
5	1.7	2.0	2.8	3.3
10	1.2	1.4	2.0	2.3
15	1.0	1.1	1.6	1.9
20	0.87	1.0	1.4	1.6
25	0.77	0.9	1.2	1.5
30	0.71	0.8	1.1	1.3
40	0.58	0.71	1.0	1.1
50	0.55	0.63	0.87	1.05
60	0.50	0.58	0.80	0.96
75	0.45	0.52	0.71	0.86
100	0.39	0.45	0.62	0.74
125	0.35	0.40	0.55	0.66
150	0.32	0.36	0.50	0.60
175	0.29	0.34	0.47	0.56
200	0.27	0.31	0.44	0.52
250	0.25	0.28	0.39	0.47
300	0.22	0.26	0.36	0.43
400	0.19	0.22	0.31	0.37
500	0.17	0.20	0.28	0.33
600	0.16	0.18	0.25	0.30
700	0.15	0.17	0.23	0.28
800	0.14	0.16	0.22	0.26
900	.....	.....	0.20	0.25
1000	.....	.....	0.20	0.23
1200	.....	.....	0.18	0.21
1400	.....	.....	0.17	0.20
1600	.....	.....	0.15	0.185
1800	.....	.....	0.15	0.175
2000	.....	.....	0.14	0.16
2500	.....	.....	0.13	0.15
3000	.....	.....	0.11	0.13
4000	.....	.....	.....	.....
5000	.....	.....	.....	.....
6000	.....	.....	.....	.....
8000	.....	.....	.....	.....
10000	.....	.....	.....	.....

*Resistances of standard units vary from 95 to 110 per cent of these values. Prices for units of less resistance variation will be quoted on request.

Units QCK1924014 and QCK1924017 take fuse holder Cat. No. 58728 price each, \$.10. Unit QCK2155968 takes fuse holder Cat. No. 418783 price each, \$.05. Two fuse holders are required for each unit.

†Enclosed rating based on units in an enclosing case. Open rating based on a single unit in open air.

Intermediate taps \$.05 extra per tap per unit.

G-E CR9006 Enameled Resistor Units

Standard Resistance Values In Ohms *	Unit Symbol QLK1924012 QDK1924013 QCK1924014 QFK2155983 QSK1924049	Price Each \$.55 .60 .70 .70 .75	Unit Symbol QLK1924015 QDK1924016 QCK1924017 QFK1924020 QSK1924050	Price Each \$.60 .65 .80 .80 .85
	55-watt Enclosed Rating	85-watt Open Rating	80-watt Enclosed Rating	122-watt Open Rating
1	.....	.....	.....	.....
3	4.3	5.1	.....	.....
5	3.3	4.0	4.0	4.9
10	2.3	2.7	2.7	3.5
15	1.9	2.3	2.3	2.8
20	1.6	2.0	2.0	2.4
25	1.5	1.8	1.8	2.2
30	1.3	1.6	1.6	2.0
40	1.1	1.4	1.4	1.8
50	1.05	1.2	1.2	1.5
60	0.96	1.1	1.1	1.4
75	0.86	1.0	1.0	1.3
100	0.74	0.90	0.90	1.1
125	0.66	0.80	0.80	1.0
150	0.60	0.73	0.73	0.90
175	0.56	0.67	0.67	0.83
200	0.52	0.63	0.63	0.77
250	0.47	0.56	0.56	0.69
300	0.43	0.51	0.51	0.63
400	0.37	0.45	0.45	0.55
500	0.33	0.40	0.40	0.49
600	0.30	0.36	0.36	0.45
700	0.28	0.34	0.34	0.41
800	0.26	0.32	0.32	0.39
900	0.25	0.30	0.30	0.37
1000	0.23	0.28	0.28	0.35
1200	0.21	0.26	0.26	0.32
1400	0.20	0.24	0.24	0.29
1600	0.185	0.22	0.22	0.27
1800	0.175	0.21	0.21	0.26
2000	0.16	0.20	0.20	0.24
2500	0.15	0.18	0.18	0.22
3000	0.13	0.16	0.16	0.20
4000	0.12	0.14	0.14	0.17
5000	.....	.....	0.12	0.15
6000	.....	.....	.....	.....
8000	.....	.....	.....	.....
10000	.....	.....	.....	.....

Standard Resistance Values In Ohms *	Unit Symbol QLK2155954	Net Retail Price, Each \$.75	Standard Resistance Values In Ohms *	Unit Symbol QLK2155954	Price Each \$.75
	120-watt Enclosed Rating	180-watt Open Rating		120-watt Enclosed Rating	180-watt Open Rating
1	.....	.....	400	0.55	0.67
3	.....	.....	500	0.49	0.60
5	4.9	6.0	600	0.45	0.55
10	3.5	4.3	700	0.41	0.50
15	2.8	3.4	800	0.39	0.47
20	2.4	3.0	900	0.37	0.45
25	2.2	2.7	1000	0.35	0.43
30	2.0	2.4	1200	0.32	0.39
40	1.8	2.0	1400	0.29	0.35
50	1.5	1.9	1600	0.27	0.33
60	1.4	1.7	1800	0.26	0.32
75	1.3	1.6	2000	0.24	0.30
100	1.1	1.3	2500	0.22	0.25
125	1.0	1.2	3000	0.20	0.24
150	0.90	1.1	4000	0.17	0.20
175	0.83	1.0	5000	0.15	0.19
200	0.77	0.95	6000	0.14	0.17
250	0.69	0.84	8000	0.12	0.14
300	0.63	0.72	10000	0.11	0.13

*Resistances of standard units vary from 95 to 110 per cent of these values. Prices for units less resistance variation will be quoted on request.

Units QCK1924014 and QCK1924017 take fuse holder Cat. No. 58728, price each, \$.10. Unit QCK2155968 takes fuse holder Cat. No. 418783, price each, \$.05. Two fuse holders are required for each unit.

†Enclosed rating based on units in an enclosing case. Open rating based on a single unit in open air.



C-H Small Theater Dimmers

For Theaters, Lodge Rooms, Club Halls,
Residences, etc.



These rheostats are used for inserting in lighting circuits for dimming lamps. Either one or two plates operated by a single lever are used. The standard dimmer is arranged for mounting flat against the wall or switchboard, with the operating lever in front. The bracket for edgewise mounting will be provided when so ordered. Write for Bulletin No. 11311.

When flickerless dimming is required, the dimmers listed in Bulletin No. 11321 should be used.

110 Volts, Two-wire

Cat. No.	Total Wattage in Lamps	Max. Amps.	Total Ohms	No. of Steps	No. and Size of Plates Inches	Wt., Lbs. Boxed	Price Each
17001	200	1.75	200	24	1-10	20	\$9.00
17002	360	3.15	110	24	1-10	20	9.00
17003	500	4.4	80	24	1-10	20	9.00
17004	660	5.7	60	40	1-12	25	11.00
17005	900	7.8	44	40	1-12	25	11.00
17006	1100	9.6	36	60	1-15	30	13.00
17007	1320	11.5	30	60	1-15	30	13.00
17008	1880	15.7	22	120	2-15	60	24.00
17009	2200	19.1	18	120	2-15	60	24.00
17010	2640	23.	15	120	2-15	60	24.00

220 Volts, Two-wire

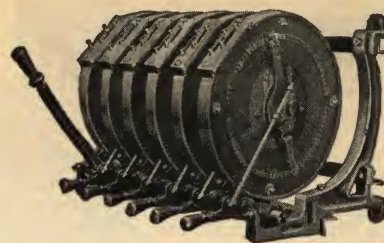
17021	200	.87	800	24	1-10	20	\$9.00
17022	360	1.56	450	24	1-10	20	9.00
17023	500	2.2	320	24	1-10	20	9.00
17024	660	2.9	240	40	1-12	25	11.00
17025	900	3.9	180	40	1-12	25	11.00
17026	1100	4.8	145	60	1-15	30	13.00
17027	1320	5.8	121	60	1-15	30	13.00
17028	1800	7.8	89	120	2-15	60	24.00
17029	2200	9.6	73	120	2-15	60	24.00
17030	2640	11.5	60	120	2-15	60	24.00

*110-220 Volts, Three-wire

17041	400	1.75	200	24	2-10	40	\$14.00
17042	720	3.15	110	24	2-10	40	14.00
17043	1000	4.4	80	24	2-10	40	14.00
17044	1320	5.7	60	40	2-12	50	19.00
17045	1800	7.8	44	40	2-12	50	19.00
17046	2200	9.6	36	60	2-15	60	24.00
17047	2640	11.5	30	60	2-15	60	24.00

*On the 110-220-volt, three-wire system the data under maximum amperes and total ohms, is given for one side only of a three-wire circuit.

C-H Simplicity Theater Dimmers



Interlocking Type

STANDARD FEATURES OF DESIGN.—For direct or alternating current. Interlocking dimmers. Master lever for every bank of dimmers of six plates or more. Banking six to twelve plates in one row for Figs. 1, 2 and 6. Banking twelve to twenty-four plates in two rows with one row of operating levers for Figs. 25 and 26.

CAPACITY LIMITATIONS.—Standard dimmers are intended for use where the dimmer is in circuit for comparatively short periods only. The ratings are the maximum, on which our experience has shown, the dimmers will give good life for this class of service.

When dimmers are desired for continuous duty such as moving picture theater house lights, corridors, etc., the following ratings should not be exceeded:

Single Sided Plate	2400 Watts
Double " "	2800 " "

Electrical Data—Single Dimmers

Total Wattage in Lamps	TWO-WIRE, 110 VOLTS		THREE-WIRE, 220 VOLTS	
	Type	Cat. No.	Type	Cat. No.
450	A	30150	B	30250
600	A	30151	B	30251
750	A	30152	B	30252
900	A	30153	B	30253
1200	A	30154	B	30254
1500	A	30155	B	30255
1800	A	30156	B	30256
2100	A	30157	B	30257
2400	A	30158	B	30258
2700	A	30159	B	30259
3000	A	30160	B	30260
3300	B	30161	B	30261
3600	B	30162	B	30262
4200	C	30163	C	30263
4800	C	30164	C	30264
5400	C	30165	C	30265
6000	C	30166	C	30266
6600	D	30167	E	30267
7200	E	30168	E	30268
8100	F	30169	G	30269
9000	F	30170	G	30270
9600	G	30171	G	30271
10200	H	30172	I	30272
10800	I	30173	I	30273
12000	I	30174	I	30274
13200	J	30175	J	30275

Electrical Data—Combination Dimmers

450	K	30176	..	.....
600	K	30177	..	.....
750	K	30178	..	.....
900	K	30179	..	.....
1200	K	30180	..	.....
1500	K	30181	..	.....
1800	K	30182	..	.....
4200	L	30183	..	.....
4800	L	30184	..	.....
5400	M	30185	..	.....



C-H Simplicity Theater Dimmers

Interlocking Type

The prices below cover dimmers banked in a frame only when six or more plates are ordered banked in one row. When less than these numbers of plates are ordered add \$18.00 to list price of the bank.

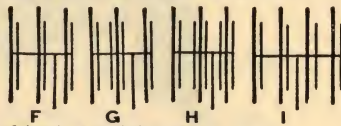


The prices below for interlocking dimmers include a master lever for every six plates. When more master levers are desired, add \$10.00 to list for each extra lever.

Also add \$10.00 to the list price for each master lever when the bank has less than six plates.

If non-interlocking dimmers are desired, deduct \$1.00 from list price for Types A to J and \$2.00 for Types K to M.

The shipping weight per dimmer given in the table below is an average value which must be multiplied by the number of dimmers in a bank to obtain the approximate shipping weight of the bank.



The prices below apply to Fig. 1 and Fig. 2 constructions only. These two styles of construction will be found applicable in by far the greater number of installations.



In some installations the location of the dimmer bank prevents the operator from seeing the lamps and therefore not knowing to what extent they are dimmed. An indicator can be mounted at the

dimmer and provided with a scale which enables the operator to readily determine the brilliancy of the lamps. Each dimmer in a bank may be provided with one of these indicators; \$2.00 should be added for each plate to be so equipped.

These dimmers are provided with 110 steps of resistor and will dim Mazda B or C Tungsten lamps completely out without flicker when used at the rated voltage and wattage.

Types K, L and M are known as combination dimmers and consist of either one or three plates with two operating levers.

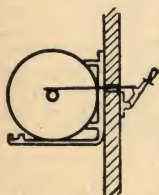


Fig. 6

These levers control independent sections of resistor, hereby giving two complete dimmers in less space than that required by two single dimmers selected for the same circuit. Standard dimmers are intended for use where the dimmer is in circuit for short periods only and are given the maximum rating on which the dimmers will give good life for this class of service. For continuous duty dimmers following ratings must not be exceeded: single-sided plate, 2400 watts; double-sided plate, 2800 watts.

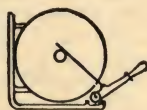


Fig. 1

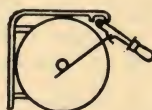


Fig. 2



Fig. 25

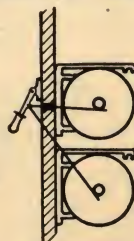


Fig. 26

For further information, write for Bulletin No. 11321.

Cat. No.	Type	Ship. Wt. Lbs. per Dimmer	Price Each Figs. 1 or 2	Cat. No.	Type	Ship. Wt. Lbs. per Dimmer	Price Each Figs. 1 or 2
119286	A	60	\$40.00	119293	H	180	\$136.00
119287	B	60	52.00	119294	I	240	150.00
119288	C	120	77.00	119295	J	240	172.00
119289	D	120	88.00	119296	K	60	57.00
119290	E	120	99.00	119297	L	180	128.00
119291	F	180	113.00	119298	M	180	151.00
119292	G	180	124.00	.....	.....	.....	.....

Paul Self-priming Suction Pumps

A pump capable of drawing water through a suction pipe from a level below same without having any working parts extended into the water is called a suction pump. The height or vertical distance from the water level to the pump is the suction lift against which it works. The lift is theoretically limited by laws of nature and practically by resistance to the flow of water in the pump itself and in the piping, also by priming considerations. Suction pumps are not used under normal conditions on lifts over 20 to 24 feet, according to size, with moderate lengths of suction pipes installed air-tight.

On high lifts small pumps of conventional design cause much trouble by becoming unprimed due to air leaks and by being unable to reprime themselves even on moderate lifts. The Paul Pumps are self-priming and when started up dry they will also reprime themselves under ordinary conditions. For the same reason they will positively charge air into their air chamber and into pneumatic tanks if admitted into the suction side. These valuable features together with extreme simplicity and strength of design, automatic lubrication, absence of wear, accessibility and unusually high efficiency insure dependable service with the least amount of attention.

Paul Pumps are built in two types, according to size, each type in several capacities. All have the same characteristic general features. They are driven by pulleys. The pumps with motors are mounted on rigid cast iron bed plates supported on brackets and form complete, self-contained units.

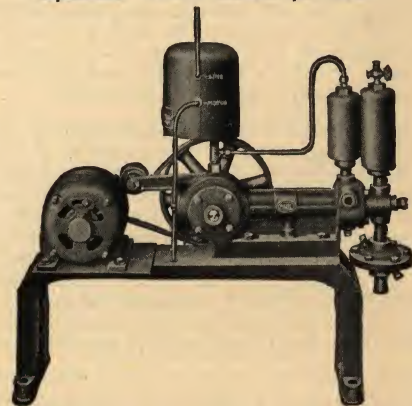
Pumps driven by electric motors must always be wired through a properly fused hand-switch near the pump. This switch is used for starting and stopping the pump when hand control is desired.

In case of pneumatic tank systems automatic service is obtained by means of a pressure controller connected to the discharge side of the pump or to the tank. The controller automatically closes the circuit and starts the pump at the low pressure and stops the pump by opening the circuit at the high pressure for which it is set.

Type K Paul Self-priming Suction Pumps

Motor Driven

Capacities: 100-210 Gallons per Hour



SPECIFICATION.—Each complete unit listed below consists of a standard Paul Self-priming Suction Pump, Type K, mounted on a cast iron bed plate with electric motor, belt, idler, automatic controller wired to motor and connected to discharge pressure, air chambers, air charger, strainer and floor or wall-brackets, as ordered.

Water-direct-from-wall attachments, water relief valves, float switches, extra air chambers, unions and other accessories are described and listed on another page.

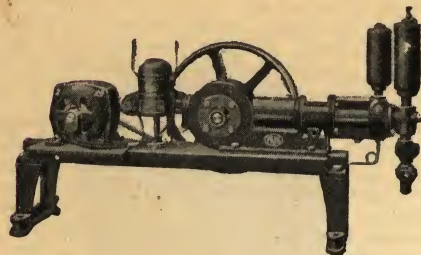
Cat. No.	Cap. Gal. Per Hour	Max. Suction Lift Feet	Motor H.P.	Pressure Range Lbs.	Disch. Pipe In.	OVERALL DIMENS. INCHES	Ship. Wt. Lbs.
						Floor Sp. Height	
97KM	100	20	1/8	20-40	1/2	27x 9 1/2	26 115
92KM	120	20	1/8	30-50	1/2	27x 9 1/2	26 120
95KM	180	21	1/8	20-40	3/4	31x11	25 150
96KM	180	21	1/2	30-50	3/4	31x11	25 155
93KM	210	21	1/4	20-40	3/4	35x14	25 190



Type G Paul Self-priming Suction Pumps

Motor Driven

Capacities: 360-1440 Gallons per Hour



SPECIFICATION.—Each complete unit listed below consists of a standard Paul Self-priming Suction Pump, Type G, mounted on a cast iron bed plate with electric motor, belt, idler, automatic controller wired to motor and connected to discharge pressure, air chambers, air charger, strainer and floor brackets.

Water-direct-from-well attachments, water relief valves, float switches, extra air chambers, unions and other accessories are described on another page. Any of these which can be applied may be added or omitted in the specification to order.

Cat. No.	Cap. per Hour	Suction Lift Feet	Motor E. P.	Pressure Range Lbs.	Suction Pipe In.	Disch. Pipe In.	OVERALL DIMENS. INCHES		Ship. Wt. Lbs.
							Floor Space	Height	
82GM	360	22	1 1/2	30-50	1	3/4	51x20	28	350
83GM	720	23	1	30-50	1 1/4	1	59x21	39	480
84GM	1440	24	2	30-50	2	1 1/2	69x25	45	930

Type J Paul Deep Well Pumps

Whenever water is obtained from a well or other source of supply where the level stands at a depth exceeding 20 to 24 feet, a deep well pump must be used. A deep well pump consists of a working head carrying a drop pipe to which a submerged well cylinder with a plunger and valves is attached operated from above by means of a pump rod.

The reciprocating motion in these pumps is "cushioned" or modified by elimination of the excessive acceleration at each end of the stroke. By attaching the pump rod and plunger to a lever arm extending from the connecting rod it thus forms a bell crank. These parts are thereby caused to dwell for a considerable length of time at each end of the stroke after the cross head has started through the whole length of the stroke. This motion does not jerk the well parts up and down violently, the pump rod does not vibrate, the load is applied gradually and the valves in the well cylinder, having ample time to seat without pounding, wear much longer.

Standard all-brass well cylinders of sufficient extra length to provide ample clearance at each end of the stroke are used. They are threaded for direct connection to the drop pipe, with foot valves and leather-packed plungers threaded for the pump rods. Two types of cylinders are used.

Type A are "Artesian" cylinders for drop pipes of sufficient size to permit the plunger and foot valve of the cylinder to be pulled through.

Type F are "Flush Cap" cylinders designed for smaller drop pipes which must be pulled with the cylinders in order to make the plungers and foot valves accessible.

In wells of considerable depth or with cylinders of large size the artesian Type "A" are preferred to facilitate handling. When the greatest possible capacity is wanted from a well of given size the flush-cap Type "F" cylinder is used because it will enter a smaller well casing than an artesian cylinder of the same size.

Type J Paul Deep Well Pumps

Motor Driven

Capacities: 120-1950 Gallons per Hour



SPECIFICATION.—Each complete unit listed below consists of a standard Paul Type J Cushion Stroke Deep Well Pump mounted on a cast iron bed plate with electric motor, belt, idler, air compressor piped to discharge chamber and foundation brackets.

Well cylinders, pump rods, drop pipe, frost-proof attachments, water-direct-from-well attachments, shifter-carriage mountings, automatic pressure controllers, float switches, water relief valves, check valves and other accessories are described and listed on another page. Any of these which can be applied may be added or omitted in the specification to order.

Motor H.P.	WELL CYLINDER INCHES	Artesian	Flush-Cap	Cap. Gals. per Hour	Drop Pipe Inches	Well Casing Inches	PUMP ROD INCHES	Octagon Round Steel	Disch. Pipe Inches	Greatest Depth to Water Feet
1/4	1 3/4 A	...	...	120	2	3	1 1/8	...	3/4	80
1/4	...	...	1 3/4 F	120	1 1/4	2	...	1/2	3/4	50
1/3	1 3/4 A	...	...	120	2	3	1 1/8	...	3/4	120
1/3	...	...	1 3/4 F	120	1 1/4	2	...	1/2	3/4	80
1/3	...	...	2 F	160	1 1/4	2 1/2	...	1/2	3/4	50
1/2	1 3/4 A	...	...	165	2	3	1 1/8	...	3/4	150
1/2	2 1/4 A	...	...	270	2 1/2	4	1 5/8	...	1	75
1/2	...	...	1 3/4 F	165	1 1/4	2	...	1/2	3/4	100
1/2	...	...	2 1/4 F	270	1 1/4	3	...	1/2	1	50
3/4	2 1/4 A	...	...	300	2 1/2	4	1 5/8	...	1	140
3/4	2 3/4 A	...	...	445	3	4	1 5/8	...	1 1/4	70
3/4	...	...	2 1/4 F	300	1 1/4	3	...	1/2	1	100
3/4	...	...	2 1/2 F	370	1 1/2	3	...	1/2	1 1/4	80
3/4	...	...	2 3/4 F	445	1 1/2	3 1/2	...	1/2	1 1/4	50
1	2 1/4 A	...	...	400	2 1/2	4	1 5/8	...	1	140
1	2 3/4 A	...	...	595	3	4	1 5/8	...	1 1/4	70
1	...	...	2 1/4 F	400	1 1/4	3	...	1/2	1	100
1	...	...	2 1/2 F	490	1 1/2	3	...	1/2	1 1/4	80
1	...	...	2 3/4 F	595	1 1/2	3 1/2	...	1/2	1 1/4	50
2	2 3/4 A	...	...	680	3	4	1 5/8	...	1 1/4	150
2	3 1/4 A	...	...	950	3 1/2	4 1/2	1 7/8	...	1 1/2	100
2	3 3/4 A	...	...	1260	4	6	1 7/8	...	2	75
2	...	...	2 3/4 F	680	1 1/2	3 1/2	...	1/2	1 1/4	120
2	...	...	3 1/4 F	950	2 1/2	4	...	5/8	1 1/2	80
2	...	...	3 3/4 F	1260	3	4 1/2	...	5/8	2	60
3	2 3/4 A	...	...	815	3	4	1 5/8	...	1 1/4	200
3	3 1/4 A	...	...	1140	3 1/2	4 1/2	1 7/8	...	1 1/2	140
3	3 3/4 A	...	...	1515	4	6	1 7/8	...	2	100
3	...	...	2 3/4 F	815	1 1/2	3 1/2	...	1/2	1 1/4	160
3	...	...	3 1/4 F	1140	2 1/2	4	...	5/8	1 1/2	110
3	...	...	3 3/4 F	1515	3	4 1/2	...	5/8	2	80
3	...	...	4 1/4 F	1950	3 1/2	5	...	5/8	2	50

NOTE.—Pumping into open elevated tanks from depths listed the total elevation of tank above pump must not exceed 70 feet.



Paul Water Systems

The purpose of a water system in general is not only to furnish water as done by a pump alone but to add a certain flexibility to the service whereby a desired quantity of water is available for immediate use regardless of the action of the pump. This is accomplished by storing water under air pressure in a pneumatic tank from where it enters the service pipes. The storage capacity varies directly with the size of the tank which therefore is chosen to suit requirements and in proportion to the capacity of the pump.

Paul Water Systems are of two types, Unit Systems and Assembled Systems.

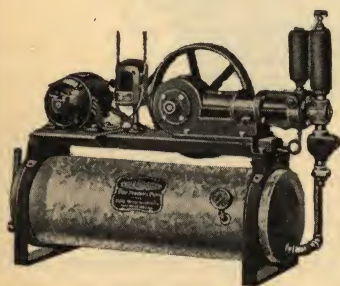
In a Unit System the pump and tank are mounted on a common bed plate and connected by piping so as to form a self-contained unit.

In an Assembled System the pump and tank are located independently of each other. Tanks used generally are black and of large size.

Paul Direct Service Water Systems

With Paul Self-priming Suction Pumps

Capacities: 100-360 Gallons per Hour



For ordinary domestic service and where only moderate storage capacity is needed the Direct Service Systems combine the advantages of occupying very little room with ease of installation. They are self-contained, the tank and pump forming one complete unit which can be placed on the floor, on any kind of foundation

or on wall brackets as is usual with small pumps. Only standard motor driven Paul Self-priming Suction Pumps are used in making up these systems. The pumps give fresh water service direct from a well without any special attachments for that purpose. They are equally suitable for cistern service and no special precautions are necessary for their installation and use except to charge air occasionally when the water does not contain enough to supply the tank.

SPECIFICATION.—Each complete unit system listed below consists of a standard Paul Self-priming Suction Pump mounted on a cast iron bed plate with electric motor, belt, idler, automatic pressure controller wired to motor and piped to discharge pressure, air chambers, air charger, strainer, brackets, carrying a galvanized tank piped to the pump, water relief valve and pressure gauge.

Unions for suction pipes and other accessories are described and listed on another page. Any of these which can be applied may be added or omitted in the specification to order.

Cat. No. of System	Cap. Gal. per Hour	Cat. No. of Pump Used	GALVANIZED Tank Size Inches	TANK Service Cap. Gals.	OVERALL DIMENS. Floor Space Inches	Height Inches	Ship. Wt. Lbs.
970DS	100	97KM	8x25	5	34x13	30	170
920DS	120	92KM	8x25	5	34x13	30	175
950DS	180	95KM	10x28	10	38x14	32	215
960DS	180	96KM	10x28	10	38x14	32	220
930DS	210	93KM	10x28	10	38x14	32	220
820DS	360	82GM	12x40	20	52x14	37	420

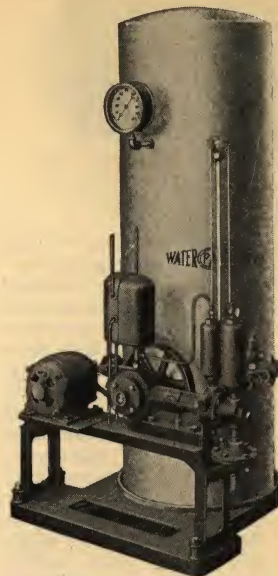
Specification of Pumps

Cat. No.	Cap. Gal. per Hour	Max. Suction Lift Feet	Motor H.P.	Controller Range Lbs.	Suction Pipe Inches	Disch. Pipe Inches
97KM	100	20	1/8	20-40	1/2	1/2
92KM	120	20	1/8	30-50	1/2	1/2
95KM	180	21	1/8	20-40	3/4	3/4
96KM	180	21	1/8	30-50	3/4	3/4
93KM	210	21	1/8	20-40	3/4	3/4
82GM	360	22	1/2	30-50	1	3/4

Paul Complete Water Systems

With Paul Type K Self-priming Suction Pumps

Capacities: 100-210 Gallons per Hour



SPECIFICATION.—Each complete Unit System listed below consists of a standard Paul Type K Self-priming Suction Pump mounted on a cast iron bed plate with electric motor, belt, idler, automatic pressure controller wired to motor and piped to discharge pressure, air chambers, air charger, strainer and floor brackets, bolted to a cast-iron sub-base, a pneumatic tank with water gauge and pressure gauge, mounted on the sub-base, piping between pump and tank with stop valve and water relief valve.

With Assembled Systems a complete set of fittings is furnished but no piping between pump and tank.

Water-direct-from-well attachments and other accessories are described and listed on another page. Any of these which can be applied

may be added or omitted in the specification to order.

Unit Systems

With No. 97-KM Pump—Capacity, 100 Gallons per Hour

Cat. No. of System	Size	Cap. Gals.	Service Pipe Finish	OVERALL DIMENS. Floor Space Inches	Ht. Inches	Ship. Wt. Lbs.
970MA	16 in. x 4 ft.	42	Galv.	27x28	54	220
970MB	20 " x 5 "	80	Galv.	27x32	66	270

With No. 92-KM Pump—Capacity, 120 Gallons per Hour

920MA	16 in. x 4 ft.	42	Galv.	27x28	54	225
920MB	20 " x 5 "	80	Galv.	27x32	66	275

With No. 95-KM Pump—Capacity, 180 Gallons per Hour

950MA	18 in. x 4 ft.	52	Galv.	27x32	54	325
950MB	22 " x 5 "	100	Galv.	27x34	66	415
950MC	24 " x 5 "	120	"	30x36	66	435
950MD	24 " x 5 "	120	Black	30x36	66	435

With No. 96-KM Pump—Capacity, 180 Gallons per Hour

960MA	18 in. x 4 ft.	52	Galv.	27x32	54	335
960MB	22 " x 5 "	100	"	27x34	66	425
960MC	24 " x 5 "	120	"	30x36	66	445
960MD	24 " x 5 "	120	Black	30x36	66	445

With No. 93-KM Pump—Capacity, 210 Gallons per Hour

930MA	18 in. x 4 ft.	52	Galv.	27x32	54	340
930MB	22 " x 5 "	100	"	27x34	66	430
930MC	24 " x 5 "	120	"	30x36	66	450
930MD	24 " x 5 "	120	Black	30x36	66	450

Assembled Systems

With No. 95-KM Pump—Capacity, 180 Gallons per Hour

950ME	24 in. x 5 ft.	120	Black	32x40	64	390
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With No. 96-KM Pump—Capacity, 180 Gallons per Hour

960ME	24 in. x 5 ft.	120	Black	32x40	64	400
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With No. 93-KM Pump—Capacity, 210 Gallons per Hour

930ME	24 in. x 5 ft.	120	Black	32x40	64	405
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930MF	30 " x 6 "	220	"	32x46	79	730
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NOTE.—Over all dimensions of Assembled Systems are approximate for pumps and tanks located conveniently close to each other.

Specification of Pumps

Cat. No.	Cap. Gals. per Hour	Max. Suction Lift Feet	Motor H. P.	Controller Range Lbs.	Suction Pipe Inches	Disch. Pipe Inches
97KM	100	20	1/8	20-40	1/2	1/2
92KM	120	20	1/8	30-50	1/2	1/2
95KM	180	21	1/8	20-40	3/4	3/4
96KM	180	21	1/8	30-50	3/4	3/4
93KM	210	21	1/8	20-40	3/4	3/4

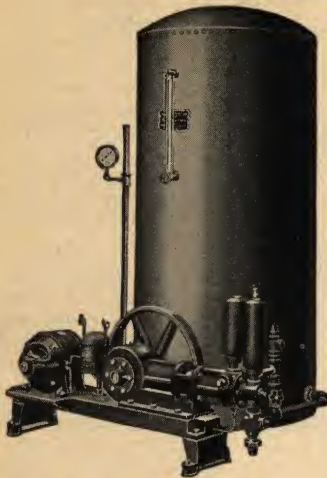


Paul Complete Water Systems

With Paul Type G Self-priming Suction Pumps
Capacities: 360-1440 Gallons per Hour



With Horizontal Tank



With Vertical Tank

Any of these which can be applied may be added or omitted in the specification to order.

SPECIFICATION.—Each complete system listed below consists of a standard Paul Type G Self-priming Suction Pump mounted on a cast iron bed plate with electric motor, belt, idler, automatic pressure controller wired to motor and connected to discharge pressure air chambers, air charger, water relief valve, strainer and floor brackets, a black pneumatic tank with water gauge and pressure gauge, tapped for discharge pipe from pump and service pipe.

Water-direct-from-well attachments, unions, water relief valves, check valves, stop valves and other accessories are described and listed on another page.

Assembled Systems

With Horizontal Tank

With No. 82-GM Pump—Capacity, 360 Gallons per Hour				PNEUMATIC TANK				OVERALL DIMEN.			
Cat. No. of System	Size	Cap. Gal.	Service Pipe Inches	Feet Floor Space	Feet Taping Height	Feet	Ship. Wt. Lbs.				
820MD	36 in. x 8 ft.	420	1 1/4	9x6	4		1260				
820ME	36 " x 12 "	630	1 1/4	13x5	4		1550				
With No. 83-GM Pump—Capacity, 720 Gallons per Hour											
830MC	36 in. x 8 ft.	420	1 1/4	9x6	4		1410				
830MD	36 " x 12 "	630	1 1/4	13x6	4		1700				
830ME	48 " x 10 "	940	2	11x7	5		2400				
830MF	48 " x 16 "	1500	2	17x7	5		3000				
With No. 84-GM Pump—Capacity, 1440 Gallons per Hour											
840MA	36 in. x 8 ft.	420	1 1/4	9x6	4		1700				
840MB	36 " x 12 "	630	1 1/4	13x6	4		2000				
840MC	48 " x 10 "	940	2	11x7	5		2700				
840MD	48 " x 16 "	1500	2	17x7	5		3500				
840ME	48 " x 20 "	1880	2	21x7	5		4100				
840MF	48 " x 24 "	2260	2	25x7	5		5600				

With Vertical Tank

With No. 82-GM Pump—Capacity, 360 Gallons per Hour							
820MA	24 in. x 5 ft.	120	1	4x4	6		780
820MB	30 " x 6 "	220	1	4x5	7		975
820MC	36 " x 6 "	315	1 1/4	4x5	7		1100
With No. 83-GM Pump—Capacity, 720 Gallons per Hour							
830MA	30 in. x 6 ft.	220	1	5x5	7		1110
830MB	36 " x 6 "	315	1 1/4	5x6	7		1250

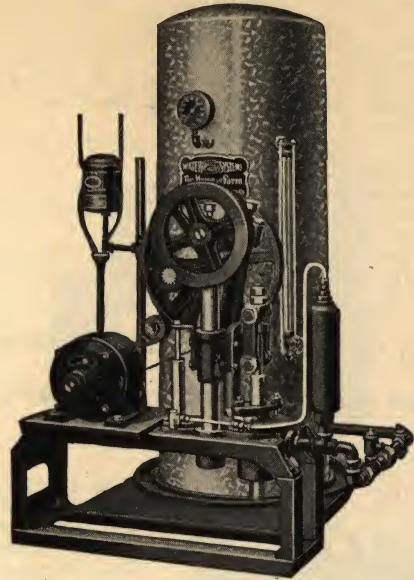
NOTE.—Above systems are all assembled and the overall dimensions given are approximate for pumps and tanks located conveniently close to each other.

Specification of Pumps

Cat. No.	Cap. Gal. per Hour	Max. Suction Lift Feet	Motor H.P.	Controller Range Lbs.	Suction pipe Inches	Disch. Pipe Inches
82GM	360	22	1/2	30-50	1	3/4
83GM	720	23	1	30-50	1 1/4	1
84GM	1440	24	2	30-50	2	1 1/2

Paul Complete Water Systems

With Paul Type J Deep Well Pumps
Capacities: 120-160 Gallons per Hour



SPECIFICATION.—Each complete system listed below consists of a standard Paul Type J Cushion Stroke Deep Well Pump mounted on a cast iron bed plate with electric motors belt idler, automatic pressure controller wired to motor and connected to discharge chamber, air compressor piped to discharge chamber, floor brackets and a pneumatic tank with water gauge and pressure gauge, tapped for discharge pipe from pump and service pipe.

Well cylinders, pump rods, drop pipe, frost-proof attachments, water-direct-from-well attachments, "shifter carriage" mountings, float switches and other accessories are described and listed on another page. Any of these which can be applied may be added or omitted in the specification to order.

Unit Systems

With Galvanized Vertical Tank

No. 48-JM Pump

PNEUMATIC TANK				OVERALL DIMEN.			
Cat. No. of System	Size	Cap. Gal.	Service Pipe Tapping Inches	Feet Floor Space	Feet Height	Ship. Wt. Lbs.	
480MA	16 in. x 4 ft.	42	3/4	2x2 1/2	4 1/2	220	
480MB	20 " x 5 "	80	3/4	2x3	5 1/2	240	
480MC	24 " x 5 "	120	1	2x3 1/4	5 1/2	270	

No. 49-JM Pump

490MA	16 in. x 4 ft.	42	3/4	2x2 1/2	4 1/2	230
490MB	20 " x 5 "	80	3/4	2x3	5 1/2	250
490MC	24 " x 5 "	120	1	2x3 1/4	5 1/2	280

Well Parts and Capacities

No 48-JM Pump

Motor H.P.	WELL CYLINDER Artesian Inches	FLUSH-CAP Inches	Cap. Gal. per Hour	Prop. Pipe Inches	Smallest Well Casing Inches	PUMP Rod Steel Inches	Disch. Pipe Inches	Greatest Depth to Water Feet
1/4	1 3/4 A	...	120	2	3	1 1/8	3/4	80
1/4	...	1 3/4 F	120	1 1/4	2	...	1/2	50

No 49-JM Pump

1/3	1 3/4 A	...	120	2	3	1 1/8	3/4	120
1/3	...	1 3/4 F	120	1 1/4	2	...	1/2	80
1/3	...	2 F	160	1 1/4	2 1/2	...	1/2	50

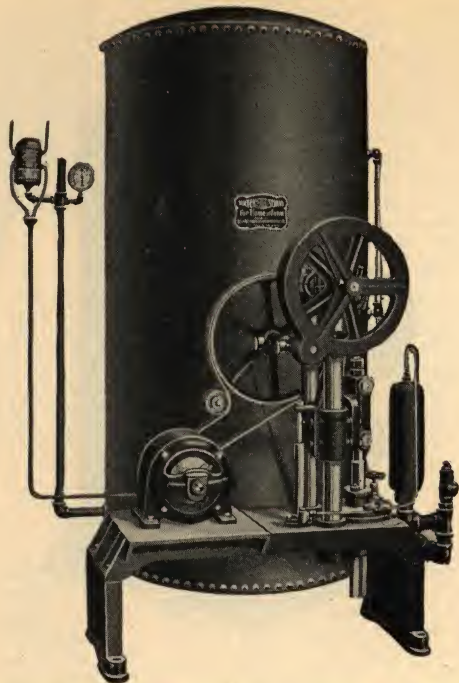
NOTE.—Pressure range of automatic controllers is 30-50 pounds.

Stroke of well cylinders listed is 10 inches. Stroke of pump is 3 inches.



Paul Complete Water Systems With Paul Type J Deep Well Pumps

Capacities: 165-270 Gallons per Hour
No. 500-M Systems



SPECIFICATION.—Each complete system listed below consists of a standard Paul Type J Cushion Stroke Deep Well Pump mounted on a cast iron bed plate with electric motor, belt, idler, automatic pressure controller wired to motor and connected to discharge chamber, air compressor piped to discharge chamber, floor brackets and a pneumatic tank with water gauge and pressure gauge, tapped for discharge pipe from pump and service pipe.

Well cylinders, pump rods, drop pipe, frost-proof attachments, water-direct-from-well attachments, "shifter carriage" mountings, float switches and other accessories are described and listed on another page. Any of these which can be applied may be added or omitted in the specification to order.

Unit Systems

With Vertical Tank and No. 50-JM Pump

Cat. No. of System	PNEUMATIC TANK				OVERALL DIMEN. FEET			Ship Wt. Lbs.
	Size	Cap. Gal.	Finish	Service Pipe Tapping	Floor Space	Height		
500MA	18 in. x 4 ft.	52	Galv.	3/4	3x3 1/2	4 1/2		600
500MB	22 " x 5 "	100	"	3/4	3x4	5 1/2		650

Assembled Systems

With Vertical Tank and No. 50-JM Pump

500MC	30 in. x 6 ft.	220	Black	1	3	x4 1/2	7	825
500MD	36 " x 6 "	315	"	1 1/4	3 1/2	x5	7	1000

With Horizontal Tank and No. 50-JM Pump

500ME	36 in. x 8 ft.	420	Black	1 1/4	9x5 1/2	4		1200
500MF	36 " x 12 "	630	"	1 1/4	13x5 1/2	4		1500

Well Parts and Data

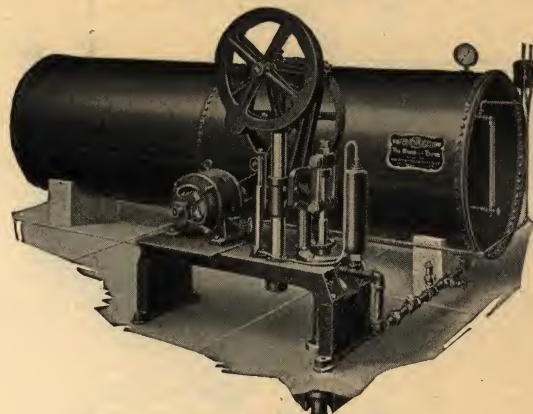
No. 50-JM Pump

Motor H.P.	WELL CYLINDER		Cap. Gal. per Hour	Prop. Pipe Inches	Smallest Well Casing		PUMP Rod Steel In.	Disch. Pipe In.	Greatest Depth to Water Feet
	Artesian In.	Flush Cap. In.			Octagon In.	Ash In.			
1/2	1 3/4 A	...	165	2	3	1 1/8	..	3/4	150
1/2	2 1/4 A	...	270	2 1/2	4	1 5/8	..	1	75
1/2	...	1 3/4 F	165	1 1/4	2	...	1 1/2	3/4	100
1/2	...	2 1/4 F	270	1 1/4	3	...	1 1/2	1	50

NOTE.—Pressure range of automatic controllers is 30-50 pounds.

Stroke of well cylinders listed is 10 inches. Stroke of pump is 5 inches.

Paul Complete Water Systems With Paul Type J Deep Well Pumps



No. 510-M Systems

Capacities: 300-445 Gallons per Hour
With Vertical Tank and No. 51-JM Pump

Cat. No. of System	PNEUMATIC TANK				OVER ALL DIMENS. FEET			Approx. Ship. Wt. Lbs.
	Size	Cap. Gals.	Finish	Service Pipe Tapping	Floor Space	Height		
510MA	24 in. x 5 ft.	100	Galv.	3/4	4x4 1/2	6		880
510MB	24 " x 5 "	120	"	1	4x4 1/2	6		900
510MC	30 " x 6 "	220	Black	1	4x5	7		1050
510MD	36 " x 6 "	315	"	1 1/4	4x5 1/2	7		1200

With Horizontal Tank and No. 51-JM Pump

510ME	36 in. x 8 ft.	420	Black	1 1/4	9x5 1/2	4 1/2		1350
510MF	36 " x 12 "	630	"	1 1/4	13x5 1/2	4 1/2		1700

Well Parts and Data

No. 51-JM Pump

Motor H. P.	WELL CYLINDER		Cap. Gals. per Hour	Drop Pipe Inches	Smallest Well Casing Inches	PUMP Rod Steel In.	Disch. Pipe In.	Greatest Depth to Water Feet	
	Artesian In.	Flush Cap. In.							
3/4	2 1/4 A	.....	300	2 1/2	4	1 5/8	..	1	140
3/4	2 3/4 A	.....	445	3	4	1 5/8	..	1 1/4	70
3/4	.....	2 1/4 F	300	1 1/4	3	...	1/2	1	100
3/4	.....	2 1/2 F	370	1 1/2	3	...	1/2	1 1/4	80
3/4	.....	2 3/4 F	445	1 1/2	3 1/2	...	1/2	1 1/4	50

NOTE.—Pressure range of automatic controllers is 30-50 pounds.

Stroke of well cylinders listed is 10 inches. Stroke of pump 6 inches.

No. 530-M Systems

Capacities: 400-595 Gallons per Hour
With Vertical Tank and No. 53-JM Pump

Cat. No. of System	PNEUMATIC TANK				OVER ALL DIMENS. FEET			Approx. Ship. Wt. Lbs.
	Size	Cap. Gals.	Finish	Service Pipe Tapping	Floor Space	Height		
530MA	24 in. x 5 ft.	120	Black	1	4x5	6		900
530MB	30 " x 6 "	220	"	1	4x5 1/2	7		1050
530MC	36 " x 6 "	315	"	1 1/4	4x6	7		1200

With Horizontal Tank and No. 53-JM Pump

530MD	36 in. x 8 ft.	420	Black	1 1/4	9x6	4 1/2		1350
530ME	36 " x 12 "	630	"	1 1/4	13x6	4 1/2		1700
530MF	48 " x 10 "	940	"	2	11x7	5		2400

NOTE.—Above are all "Assembled" Systems. Approximate dimensions are for pumps and tanks located conveniently close to each other.

Well Parts and Data

No. 53-JM Pump

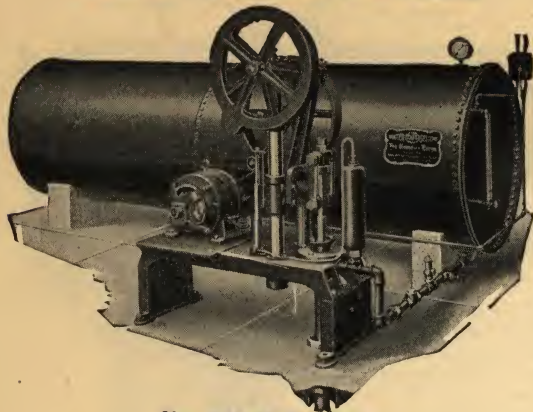
Motor	WELL Artesian	CYLINDER Flush Cap	Cap. Gals. per Hour	Drop Pipe In.	Smallest Well Casing In.	PUMP Rod Steel	Round Disch. Pipe	Greatest Depth to Water Feet
H. P.	In.	In.				Ash In.	In.	
1	2¼A	.....	400	2½	4	1⅝	..	1
1	2¾A	.....	595	3	4	1⅝	..	1¼
1	.....	2¼F	400	1¼	3	...	½	1
1	.....	2½F	490	1½	3	...	½	1¼
1	.....	2¾F	595	1½	3½	...	½	1¼

NOTE.—Pressure range of automatic controllers is 30-50 pounds.

Stroke of well cylinders listed is 12 inches. Stroke of pump is 8 inches.



Paul Complete Water Systems With Paul Type J Deep Well Pumps



No. 540-M Systems

Capacities: 630-1260 Gallons Per Hour
With Vertical Tank and No. 54-JM Pump

Cat. No. of System	PNEUMATIC TANK			Service Pipe Finish Tap. In.	OVER ALL DIMENS. FEET		Approx. Ship. Wt. Lbs.
	Size	Cap. Gal.			Floor Space	Hgt.	
540MA	30 in. x 6 ft.	220	Black	1	5x5½	7	1440
540MB	36 " x 6 "	315	"	1¼	5x6	7	1600
With Horizontal Tank and No. 54-JM Pump							
540MC	36 in. x 8 ft.	420	Black	1¼	9x6	5½	1700
540MD	36 " x 12 "	630	"	1¼	13x6	5½	2100
540ME	48 " x 10 "	940	"	2	11x7	5½	2900
540MF	48 " x 16 "	1500	"	2	17x7	5½	3600

NOTE.—Above are all "Assembled" Systems. Approximate dimensions are for pumps and tanks located conveniently close to each other.

Well Parts and Data

Cat. No. of System	PNEUMATIC TANK			Service Pipe Finish Tap. In.	OVER ALL DIMENS. FEET		Approx. Ship. Wt. Lbs.
	Size	Cap. Gal.			Floor Space	Hgt.	
540MA	30 in. x 6 ft.	220	Black	1	5x5½	7	1440
540MB	36 " x 6 "	315	"	1¼	5x6	7	1600
540MC	36 in. x 8 ft.	420	Black	1¼	9x6	5½	1700
540MD	36 " x 12 "	630	"	1¼	13x6	5½	2100
540ME	48 " x 10 "	940	"	2	11x7	5½	2900
540MF	48 " x 16 "	1500	"	2	17x7	5½	3600

NOTE.—Pressure range of automatic controllers is 30-50 pounds.

Stroke of well cylinders listed is 16 inches. Stroke of pump is 10 inches.

No. 560-M Systems

Capacities: 815-1950 Gallons Per Hour
With Horizontal Tank and No. 56-JM Pump

Cat. No. of System	PNEUMATIC TANK			Service Pipe Finish Tap. In.	OVER ALL DIMENS. FEET		Approx. Ship. Wt. Lbs.
	Size	Cap. Gal.			Floor Space	Hgt.	
560MA	36 in. x 8 ft.	420	Black	1¼	9x6½	5½	1700
560MB	36 " x 12 "	630	"	1¼	13x6½	5½	2200
560MC	48 " x 10 "	940	"	2	11x7½	5½	3000
560MD	48 " x 16 "	1500	"	2	17x7½	5½	3700
560ME	48 " x 20 "	1880	"	2	21x7½	5½	5100
560MF	48 " x 24 "	2260	"	2	25x7½	5½	5800

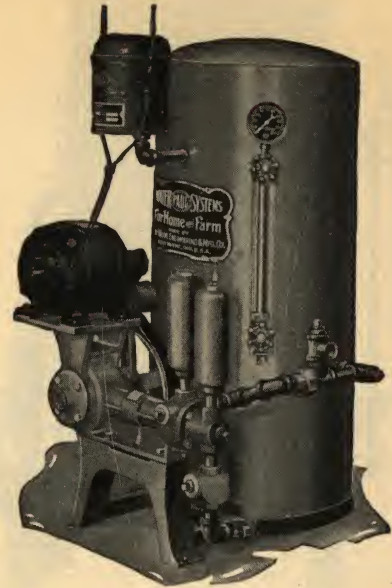
Well Parts and Data No. 56-JM Pump

Cat. No. of System	PNEUMATIC TANK			Service Pipe Finish Tap. In.	OVER ALL DIMENS. FEET		Approx. Ship. Wt. Lbs.
	Size	Cap. Gal.			Floor Space	Hgt.	
560MA	36 in. x 8 ft.	420	Black	1¼	9x6½	5½	1700
560MB	36 " x 12 "	630	"	1¼	13x6½	5½	2200
560MC	48 " x 10 "	940	"	2	11x7½	5½	3000
560MD	48 " x 16 "	1500	"	2	17x7½	5½	3700
560ME	48 " x 20 "	1880	"	2	21x7½	5½	5100
560MF	48 " x 24 "	2260	"	2	25x7½	5½	5800

NOTE.—Pressure ranges of automatic controllers is 30-50 pounds.

Stroke of well cylinders listed is 16 inches. Stroke of pump is 12 inches.

Type US Paul Water Systems



The system may be placed directly upon a level cement floor or it may be raised above the floor upon a cement pier or other convenient sub-structure capable of supporting its weight and eliminating vibration. All that is needed in the way of installation is to connect the suction pipe to the pump and the discharge opening in the tank to the service pipe of the house.

No. 970-US system consists of a Type K self-priming pump with ⅛-horsepower special heavy-duty pump motor. Pressure tank is extra heavy galvanized inside and outside, capacity, 30 gallons. Type F, pressure controller, double pole, fully enclosed, adjusted to start motor at 20 pounds pressure and stop motor at 40 pounds pressure. Floor space, 17x24 inches; height, 30 inches; suction, ½-inch; discharge, ½-inch.

Each system shipped completely assembled in one crate. Weight crated for shipment, 200 pounds.

No. 950-US system consists of a Type K self-priming pump with ⅛-horsepower special heavy duty pump motor. Pressure tank is extra heavy galvanized inside and outside, capacity 30 gallons. Type F pressure controller double pole, fully enclosed, adjusted to start motor at 20 pounds pressure and stop motor at 40 pounds pressure. Floor space, 18x26 inches; height, 30 inches, suction, ¾-inch; discharge, ¾-inch.

Each system shipped completely assembled in one crate. Weight crated for shipment, 235 pounds.

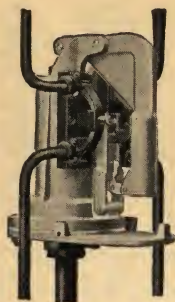
Cat. No.	Cap. Gals. per Hour	Motor H.P.	Size Pipe In.	Cap. Gals.	Ship. Wt. Lbs.	Price, Each A.C. 1-phase 110 or 220-volt 60-cycle or D.C. 32-volt 110 or 220-volt
970-US	100	⅛	½	30	200	\$112.00
920-US	120	⅛	½	30	205	120.00
950-US	180	⅛	¾	30	235	130.00
960-US	180	¼	¾	30	230	135.00
930-US	210	¼	¾	30	230	140.00

If electric current available is 25, 30, 40 or 50 cycle, add \$10.00 to price.



Paul Automatic Pressure Regulators

Type F



Designed for the purpose of controlling motors used in connection with pumps. The double pole main contacts are provided with preliminary contacts which avoid any arcing at the main contacts. The connecting wires are fastened to the stationary lower contacts and no flexible connections carrying currents are used. A catch is provided to hold the contacts in closed position until the moment of cutting out, when a quick, snappy break takes place. The throw of the contacts is limited in both directions without shock to any part of the mechanism.

The controller has ample capacity for Direct-current Motors up to $\frac{1}{2}$ H.P., Alternating Current Motors, Single-phase up to 3 H.P. and Polyphase up to 5 H.P. inclusive. It is tapped for $\frac{3}{8}$ -inch pipe and is carried on the connection. The over all dimensions are $3\frac{1}{2} \times 5\frac{1}{4} \times 6\frac{1}{4}$ inches high.

Shipping weight, domestic, about 5 pounds. Boxed for export, 12 pounds.

Parts

Part No.	Name of Part	Part No.	Name of Part
1	Diaphragm	11	Contact Insulator
2	Frame	12	Catch Plate
3	Spring	13	Catch
4	Insulator (4)	14	Catch Spring
5	Adjusting Nut	15	Contact Support
6	Pressure Plate	16	Link
7	Lever Arm	17	Rocking Lever
8	Lower Contact (4)	18	Lever Spring
9	Terminal Clip (4)	19	Flange
10	Contacts (2)	..	.....

Pressure Adjustment

Cat. No.	ADJUSTMENT		Cat. No.	ADJUSTMENT	
	In	Out		In	Out
70F	15	30	75F	30	60
71F	20	40	76F	100	130
72F	25	45	77F	110	130
73F	30	50	78F	90	110
74F	35	50	...	...	...

No. 96 Paul Automatic Starters

For Electric Motors



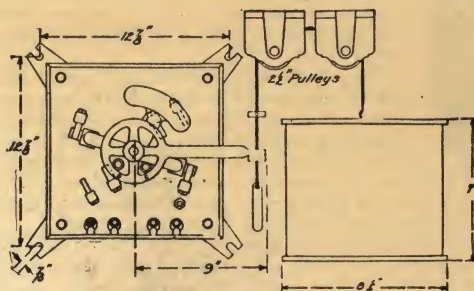
For the control of large motors or wherever the service conditions demand them, automatic self-starters are used. They are actuated by the Paul Automatic Pressure Controller placed in a pilot circuit. They are also used when remote control is desired for hand starting.

No. 96 is for Alternating Current Motors starters of the "Across the Line" type. No. 61 is for Direct Current Motors starters of the "Time Limit" type.

Cat. No.	Electric Current	Motor H.P.	Cat. No.	Electric Current	Motor H.P.
96A	A.C.	1 to 2	61A	D.C.	$\frac{1}{2}$ to 1
96B	A.C.	3 " 5	61B	D.C.	2 " 3

Paul Float Switches

For Electric Motors



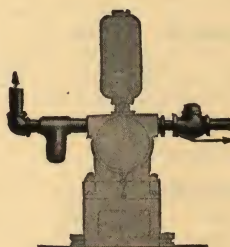
No. 40-SP

For automatically maintaining a water level between fixed limits in an open tank supplied by a motor driven pump the motor is controlled by a float switch, opened and closed by means of adjustable collars on a chain which receives motion from a float in the tank.

In case of large motors or where the nature of the service calls for motors operated by automatic self-starters these are actuated by the float switch in a pilot circuit exactly as by a pressure controller.

Cat. No.	Type	ALT. CURRENT SINGLE PHASE		ALT. CURRENT 2 & 3 PHASE		DIRECT CURRENT	
		110V.	220V.	110V.	220V.	32V.	110-220V.
40SP	Single Pole-H.P.	2	3	3	5	1	1
40DP	Double Pole-H.P.	3	5	3	5	1	1

Paul Water-direct-from-well Attachments



Type WD-S



Type WD-D

Any automatically controlled, motor-driven Paul pump or water system supplying water suitable for drinking may be equipped with this attachment and a separate "fresh water" discharge pipe leading to one or more faucets, the opening of which immediately starts the pump, regardless of tank pressure, delivering "water direct from the well."

With suction pumps the attachment consists of a special check valve in the discharge line between pump and tank and an air seal in the fresh water line at the pump.

With deep well pumps the attachment consists of a special check valve in the discharge line between pump air chamber and tank, an extra air chamber for mounting the controller on the discharge air chamber and necessary fittings for air sealing the fresh water pipe by running it downwards as indicated.

For Suction Pumps

Cat. No.	Discharge Inches
$\frac{1}{2}$ WD-S	$\frac{1}{2}$
$\frac{3}{4}$ WD-S	$\frac{3}{4}$
1 WD-S	1

For Deep Well Pumps

Cat. No.	Discharge Inches
$\frac{3}{4}$ WD-D	$\frac{3}{4}$
1 WD-D	1
$\frac{1}{4}$ WD-D	$\frac{1}{4}$

NOTE.—When ordering the attachment for a pump already installed, always give name plate reading.



Paul Water Relief Valves



No. 1/2RV

As a protection against excessive pressure and accidents every pressure system of water supply must be provided with a reliable water relief valve.

To fill the need for a high grade valve of small size the Paul Relief Valve was designed with great strength of body to stand rough handling without springing out of true. The perfectly guided valve has a renewable seat over which the spring pressure is evenly distributed. The adjustment is fool-proof, all parts are of non-corrosive materials and fully protected. The range of action is short.

The valve is made in one size only with 1/2-inch connections but has a capacity of about six gallons per minute and is therefore suitable for 1/2-inch and 3/4-inch pipe lines. Furnished with Paul Water Systems and is set at 60 lbs. pressure.

Paul Check Valves

The Paul Check Valve is designed on the principles of the discharge valve used in all Paul Suction Pumps with a view of entirely eliminating the troubles due to leaks and noisy operation so common in the ordinary valve.

It is a cold water discharge check valve for pressures up to about 100 lbs. On account of the pure rubber ring valve it can not be used for very hot water or for oil. It may be used in suction lines at moderate lifts, but on very high lifts no check valve should be installed on account of the added resistance.

The Paul Check Valve is tight and noiseless, has no "slip" and can be used in any position.



Valves

Cat. No.	Size Inches	Diam. Body Inches	Length Inches	Weight Oz.
1/2CVR	1/2	2	2 1/8	15
3/4CVR	3/4	2 3/8	2 3/4	24

Rubber Ring Valves for Above

Cat. No.	Size Check Inches	Outside Diam. Inches	Section Diam. Inches
1/2CVR	1/2	1 5/8	1 1/4
3/4CVR	3/4	1 9/16	5/16

Paul Strainers



To prevent dirt or foreign matter from entering a pump or water system efficient strainers of a new design are furnished with every Paul Suction Pump. The strainer consists of one single casting and is therefore air tight. The water enters a tubular, perforated brass screen from both ends and any dirt entering the suction pipe will collect on the inside of this screen. By removing a pipe plug the screen can be withdrawn for the purpose of cleaning without removing the strainer or in any way disturbing the suction pipe. The clear area of the strainer is several times that of the pipe and very little resistance to the flow of water is offered.

Cat. No.	Size In.	Length In.	Wt. Lbs.	Cat. No.	Size In.	Length In.	Wt. Lbs.
1/2ST	1/2	2 3/8	1 3/8	1 1/4ST	1 1/4	4 3/8	4 3/4
3/4ST	3/4	3 1/8	1 7/8	1 1/2ST	1 1/2	4 3/4	6 1/2
1 ST	1	3 1/2	3	2 ST	2	5 3/4	10 1/2

Paul Pneumatic Pressure Tanks

Cat. No.	Size	Cap. Gals.	Style Tank	Finish	Wt. Lbs.
164VG	16 in. x 4 ft.	42	Vertical	Galv.	100
184VG	18 " x 4 "	52	"	"	110
205VG	20 " x 5 "	80	"	"	175
225VG	22 " x 5 "	100	"	"	190
245VG	24 " x 5 "	120	"	"	200
245VB	24 " x 5 "	120	"	Black	200
306VB	30 " x 6 "	220	"	"	600
366VB	36 " x 6 "	315	"	"	750
368HB	36 " x 8 "	420	Horizontal	"	900
3612HB	36 " x 12 "	630	"	"	1200
4810HB	48 " x 10 "	940	"	"	1900
4816HB	48 " x 16 "	1500	"	"	2800
4820HB	48 " x 20 "	1880	"	"	3400
4824HB	48 " x 24 "	2260	"	"	4000

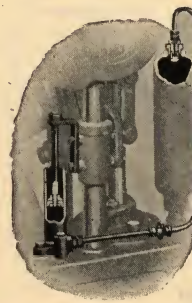
Paul Independent Motor Driven Air Compressors

In water systems using large pneumatic tanks it is customary to install a small air compressor for the purpose of charging air independently of the pump. The compressor listed below, in two sizes, is very efficient for this service. It is direct geared to an electric motor and self-contained, being mounted complete on a substantial cast iron bed plate.

These compressors are good for continuous service against the highest pressures listed with Paul Water Systems. When the service is intermittent they can be used for other purposes delivering air up to 150 lbs. pressure.

Cat. No.	Displacement Cubic Feet Free Air Per Minute	Motor H.P.	Approx. Ship. Wt. Lbs.
2CM	2	1/2	245
4CM	4	1	300

Paul Air Compressors for Deep-well Pumps



Every Paul Type J Cushion Stroke Deep Well Pump is equipped with an efficient air compressor mounted on the bed plate and driven directly from the cross head. It discharges into the air chamber of the pump through a copper tube which has a three-way valve for unloading the compressor when air is not needed. A special Plug Check Valve at the air chamber prevents any leak of air or water into the compressor.

Cat. No.	48JC	50JC	51JC	53JC	54JC	56JC
Stroke In.	3	5	6	8	10	12
For Pump	48-49J	50J	51J	53J	54J	56J

Paul Shifter Carriage Mountings For Deep-well Pumps

In order to entirely remove the deep well pump from the well and obtain unobstructed access to the well parts without detaching it from the foundation,

Paul Type J Cushion Stroke Deep Well Pumps may be ordered mounted on "Shifter-Carriages" consisting of telescoping tubes carried by the foundation brackets. By disconnecting the plunger and cross head the pump will slide out of the way bodily and without effort.



Cat. No.	489SC	500SC	513SC	546SC
For Pump	48-49J	50J	51-53J	54-56J



A Guide for Selecting Paul Water Systems

Farm Requirements

In order to find the system recommended decide the following three points:

FIRST.—What type of System is needed?

If the lift or vertical distance from lowest water level to pump, where it will be located, is less than 20 to 24 feet a Suction Pump System may be used.

If the lift is more than 20 to 24 feet a Deep Well System is needed.

SECOND.—What is the class of service?

Determine this by the plumbing from the following table:

Kind of Fixtures	Sink	Water Closet	Lavatory	Bath Tub	Shower Bath	Laun- dry Tub	Class of Service
Number of	1	1	1	1	1	1	A
Fixtures in	1	1 or 2	1 or 2	1	1	1	B
Use	1	1 " 2	1 " 2	1	1	1	C
	1	1 " more	1 " more	2	1	1 or more	D
	1	1 " more	1 " more	2	1	1 or more	E

THIRD.—What is the daily water consumption in gallons?

Determine this by the number of persons and amount of stock from the following table:

Class of Service	A	B	C	D	E
Gallons per Person	6	18	24	30	30
" " Animal	Horse	Cow	Hog	Sheep	....
	10	8	3	2	....

The recommended water system is found as follows:

If a Suction Pump System, refer to Table 1 and column including the estimated water consumption, in line with class of service.

If a Deep Well System, refer to Table 2 and column including the estimated water consumption, in line with class of service and lift, or depth to water.

If a Suction Pump House Service System is wanted for rain water from a cistern or other limited water supply alone or in addition to the general supply, refer to Table 3 and column including the number of persons served, in line with class of service.

Table 1—Suction Pump Systems

Class of Service	Up to 150	150-350	350-750	750-1500	1500-3000
A	970-DS	950-DS	820-DS	830-MA	840-MA
B	920-DS	930-DS	820-DS	830-MA	840-MA
C	970-MA	950-MA	820-MA	830-MB	840-MB
D	920-MB	930-MB	820-MB	830-MB	840-MB
E	950-MB	930-MC	820-MB	830-MC	840-MC

Table 2—Deep Well Systems

Class of Service	Lift Feet	Up to 150	150-350	350-750	750-1500	1500-3000
A	22- 50	480-MA	490-MA	530-MA	540-MA	560-MA
	50- 75	480-MA	500-MA	530-MA	540-MA	560-MA
	75-100	500-MA	500-MA	530-MA	540-MA	560-MA
B	22- 50	480-MA	490-MA	530-MA	540-MA	560-MA
	50- 75	480-MA	500-MA	530-MA	540-MA	560-MA
	75-100	500-MA	500-MA	530-MA	540-MA	560-MA
C	22- 50	480-MA	490-MA	530-MA	540-MB	560-MB
	50- 75	480-MA	500-MA	530-MA	540-MB	560-MB
	75-100	500-MA	500-MB	530-MB	540-MB	560-MB
D	22- 50	480-MC	490-MC	530-MB	540-MB	560-MB
	50-100	480-MC	500-MC	530-MB	540-MB	560-MB
	100-140	500-MB	500-MB	530-MB	540-MC	560-MC
E	22- 50	490-MC	500-MC	530-MB	540-MC	560-MC
	50-100	500-MC	500-MC	530-MB	540-MC	560-MC
	100-140	500-MC	530-MB	530-MB	540-MC	560-MC

Table 3—House Service

Class of Service	Up to 4	5-8	9-12	Class of Service	Up to 4	5-8	9-12
A	970-DS	970-DS	920-DS	D	920-MB	950-MB	930-MC
B	970-DS	970-DS	970-DS	E	950-MB	930-MB	930-MF
C	970-MA	920-MA	920-MB				

A Guide for Selecting Paul Water Systems

Home Requirements

In order to find the system recommended decide the following three points:

FIRST.—What type of system is needed?

If the lift or vertical distance from lowest water level to pump, where it will be located, is less than 20 to 24 feet, a Suction Pump System may be used.

If the lift is more than 20 to 24 feet a Deep Well System is needed.

SECOND.—What is the class of service?

Determine this by the plumbing from the following table:

Kind of Fixtures	Sink	Water Closet	Lavatory	Bath Tub	Shower Bath	Sitz Bath	Foot Bath	Laun- dry	Class of Service
Number of	1	1	1	1	1	1	1	1	A
Fixtures in	1	1 or 2	1 or 2	1	1	1	1	1	B
Use	1	1 " 2	1 " 2	1	1	1	1	1	C
	1	2 " more	2 " more	2	1	1	1	1	D
	1	2 " "	2 " "	3	2	1	1	1	E
	1 or more	2 " "	2 " "	4	3	1	1	1	F
									G

THIRD.—What is the average number of persons accommodated?

If a Suction Pump System, refer to Table 4.

If a Deep Well System, refer to Table 5.

If a Cistern System, for rain water, refer to Table 6.

In each table the system is located in the column including the number of persons accommodated in line with the class of service. Table 5 also takes into account the lift. Each system has a catalogue number and is fully described and specified on the page referred to in table.

Table 4—Suction Pump Systems

Class of Service	Up to 4	5-8	9-12	Class of Service	Up to 4	5-8	9-12
A	970-DS	970-DS	920-DS	E	930-MB	930-MC	820-MB
B	920-DS	920-MA	950-MA	F	820-MB	820-MC	830-MC
C	920-MA	950-MA	930-MB	G	820-MC	820-MD	830-MD
D	950-MA	930-MB	820-MA				

Table 5—Deep Well Systems

Class of Service	Lift Feet	Up to 4	5-8	9-12
A	22- 50	480-MA	480-MA	480-MA
	50-100	490-MA	490-MA	490-MA
B	22- 50	480-MA	480-MB	480-MB
	50-100	490-MA	490-MB	490-MB
C	22- 50	480-MB	490-MB	490-MC
	50- 75	490-MB	490-MB	500-MC
	75-100	500-MA	500-MB	500-MC
D	22- 50	490-MC	500-MB	500-MC
	50- 75	500-MB	500-MC	530-MB
	75-100	500-MB	500-MC	530-MB
E	22- 50	500-MB	500-MC	530-MC
	50-100	500-MC	500-MD	530-MC
	100-140	500-MC	530-MB	530-MC
F	22- 50	500-MD	530-MD	540-MD
	50-100	530-MC	530-MD	540-MD
	100-140	530-MC	530-MD	540-MD
G	22- 50	500-ME	530-ME	540-ME
	50-100	530-MD	530-ME	540-ME
	100-140	530-MD	530-ME	540-ME

Table 6—Cistern Systems

Class of Service	Up to 4	5-8	9-12	Class of Service	Up to 4	5-8	9-12
A	970-DS	970-DS	920-DS	E	950-MB	930-MB	930-MF
B	970-DS	970-DS	950-DS	F	930-MF	820-MB	820-MD
C	970-MA	920-MA	920-MB	G	820-MB	820-MC	820-ME
D	920-MB	950-MA	930-MC				



PR XXX Iron Box Bells and Buzzer

Schedule Q

Class B Vibrating, for Battery Circuits

Reed-type armature, patented adjustable side double-screw contact post.

Unbreakable drawn-steel base; armature and hammer rod in one piece; hammer rod swaged to a spring temper.

Can also be used on 6-volt A.C. bell ringing transformer.

Standard resistance, 2 ohms, except on quantity orders.

Gong is nickel-plated; base and cover dull black enamel.



PR XXX Iron Box Bells

Cat. No.	Size and Description	Resist. Ohms	Std. Pkg.	Price Each
211	2 1/2	2	100	\$.99
212	3	2	100	1.07
213	4	2	50	1.39

Fancy Gong PR XXX Iron Box Bells

215	Cow	2	50	\$1.66
218	Sleigh	2	50	1.66
219	Dome	2	50	1.66

PR Iron Box Buzzers

210	Buzzer (Black)	2	100	\$.97
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PR Eclipse Iron Box Bells

Schedule Q

Class C Vibrating, for Battery Circuits

Drawn steel base, non-adjustable contact posts; armature and hammer rod in one piece; hammer rod swaged to a spring temper.

Can also be used on 6-volt A.C. bell ringing transformers. Standard resistance, 2 ohms.

Gong is nickel-plated, base and cover dull black enamel.



Cat. No.	Size and Description	Resist. Ohms	Std. Pkg.	Price Each
201	2 1/2	2	100	\$.92
202	3	2	100	.99
203	4	2	50	1.32
205	Cow	2	50	1.59
206	Sleigh	2	50	1.59
207	Dome	2	50	1.59

PR Eclipse Iron Buzzers

Schedule Q

Class C

Non-adjustable side contacts. Wound only to standard resistance of 2 ohms.

Cat. No.	Description	Price Each
200	Buzzer (Black)	\$.89



PR Marlo Iron Box Bells and Buzzers

Schedule Q

Class AA, Vibrating

Cat. No.	Size and Description	Std. Pkg.	Price Each
221	2 1/2-inch Bell	100	\$1.49
222	3 " "	100	1.57
223	4 " "	50	1.90
...	Fancy Gong	50	2.17
220	Buzzers (Black)	100	1.48

Regularly wound to a resistance of 3 1/2 ohms. When specially ordered bells wound to any resistance up to 200 ohms, at the following additions:

1 to 10 Ohms	11 to 20 Ohms	21 to 50 Ohms	51 to 100 Ohms	101 to 200 Ohms
\$1.95	\$2.20	\$2.45	\$2.70	\$2.95



PR Marlo Transformer Gongs

Schedule E

PR Marlo Transformer Steel-clad A.C. Gongs are specially designed for operation on transformer circuits. They are made as listed below for 6 and 12-bolt bell ringing transformer circuits, also for 100 to 110-volt A.C. light and power circuits. No external resistance is required.

Unbreakable drawn steel frame and rugged substantial trunion of heavy pressed steel; magnets wound with impregnated wire. All connections soldered. Patented adjustable screw contact post, substantial back adjustment; armature and hammer rod in one piece. Hammer rod swaged to a spring temper, retaining its resiliency under all conditions. Laminated cores guarantee ideal magnetic conditions.

Gongs are regularly furnished nickel-plated; base and cover furnished in dull black enamel. All gongs installed on light or power circuits should be installed in accordance with the Underwriters' rules applying to 110 or 220-volt lamps, and should be protected by a one-ampere or two-ampere fuse.

For Use in Multiple on 6 and 12-volt, 50-60-cycle, A. C. Bell Ringing Transformer Circuits

Size Gong Inches	Std. Pkg.	Price Each	Size Gong Inches	Std. Pkg.	Price Each
2 1/2	6	\$6.15	4	6	\$6.75
3	6	6.30			....

Fancy Gongs and Buzzers

Standard package, 1.

Cow, Dome and Sleigh Gongs..... each \$8.55

Buzzers, Black Finish..... " 6.00

PR Marlo Transformer Giant Steel-clad Gongs

For Use in Multiple on 50-60-cycle, 12-18-volt, A. C. Bell Ringing Transformer or Battery Circuits

Size Gong In.	Std. Pkg.	Non-GUARDED GONGS FOR INTERIOR USE		Non-GUARDED GONGS FOR OUTSIDE USE		HALF-GRID GUARDED GONGS FOR OUTSIDE USE	
		Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
5	6	MTA 5	\$17.20	MTAW 5	\$19.95	MTBW 5	\$27.15
6	6	MTA 6	19.05	MTAW 6	21.85	MTBW 6	29.00
8	4	MTA 8	23.70	MTAW 8	26.50	MTBW 8	36.20
10	2	MTA10	42.35	MTAW10	45.10	MTBW10	57.80
12	2	MTA12	48.55	MTAW12	51.30	MTBW12	68.50

For Use in Multiple on 100, 110-volt, 50-60-cycle A. C. Light and Power Circuits

Size Gong In.	Std. Pkg.	Non-GUARDED GONGS FOR INTERIOR USE		Non-GUARDED GONGS FOR OUTSIDE USE		HALF-GRID GUARDED GONGS FOR OUTSIDE USE	
		Cat. No.	Price Each	Cat. No.	Price Each	Cat. No.	Price Each
5	6	MTA 5	\$29.30	MTAW 5	\$32.10	MTBW 5	\$39.25
6	6	MTA 6	31.80	MTAW 6	34.55	MTBW 6	41.75
8	4	MTA 8	38.65	MTAW 8	41.45	MTBW 8	51.15
10	2	MTA10	60.30	MTAW10	63.05	MTBW10	75.75
12	2	MTA12	66.50	MTAW12	69.25	MTBW12	86.55

PR Watchcase Buzzers

Schedule Q

Diameter of base, 2 3/8, height, 1 3/4 inches.

Adjustable

Price, No. 240, Black Enamel... each \$1.12

" " 261, Pol. Nickel " 1.12

Non-adjustable

Price, No. 265, Black Enamel... each \$.99

" " 266, Pol. Nickel " .99

PR Monitor Bells

Schedule Q

Have pivoted armatures, nickel-plated bells, metal gongs and black enamel bases.

Wound to a standard resistance of two ohms, except on quantity orders.

Standard package, 20.

Price, No. 238.....each \$1.54





No. 13 Lungen Bells

3 Ohms

Schedule E



Made of brass heavily nickeled; ribbed edges, spring cover. Cast base, screw and locknut adjustment. Price for special finish upon request.

Size In.	Std. Pkg.	Price Each	Size In.	Std. Pkg.	Price Each
1	6	\$2.00	4	6	\$2.05
1 3/4	6	1.80	5	1	8.40
2 1/2	12	1.40	6	1	9.45
3	12	1.55			.....

No. 730 Edwards Buz-a-bels

Schedule E



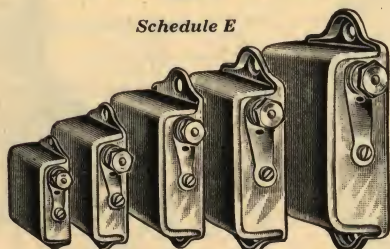
Cost half as much as a single bell or buzzer of quality. Operates equally well on battery or transformer. Tested to 40000 operations on 15 volts A. C. which is more than 15 years of actual experience.

Standard package, 100.

Price, No. 730each \$1.12

No. 15 Lungen Buzzers

Schedule E



Cover and base sheet steel; pivoted armature; ribbed edge spring cover.

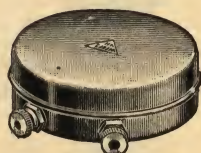
Size No.	Dimens. Inches	Std. Pkg.	Price Each	Size No.	Dimens. Inches	Std. Pkg.	Price Each
0	1 5/8 x 1 1/2 x 1 1/2	10	\$1.85	3	3 x 2 x 7/8	\$10	\$1.95
1	2 1/8 x 1 5/8 x 5/8	25	1.45	4	3 1/2 x 2 1/4 x 1 1/8	10	2.20
2	2 3/8 x 1 3/4 x 3/4	25	1.70				

No. 750 Bronx Watchcase Buzzers

Schedule Q

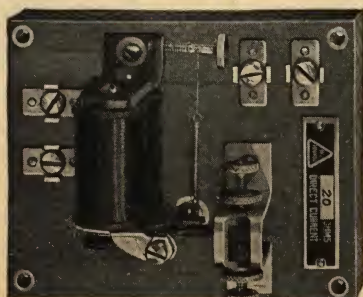
A brass case, heavily nickel plated; phosphor-bronze springs, silver-contacts.

Cat. No.	Height Inches	Diam. Inches	Std. Pkg.	Price Each
750	5/8	1 3/4	20	\$.99



No. 1238 Dixie Relays

Schedule T



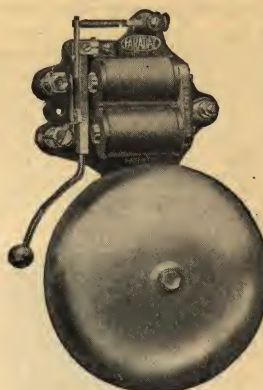
A new relay combining the necessary features of the pony type. The adjustment and length of break is plainly visible.

Price, No. 1238each \$6.00

Faraday Skeleton Bells

Schedule E

Model O Vibrating Type
For Battery Circuits Only



Skeleton bells meet the requirement of a good signal gong with exposed mechanism. Faraday Skeleton Bells have high-power patented pivoted-armatures giving twice the volume of sound that ordinary construction affords; full-insulated mechanisms, back-tension adjustments, non-turning contact and binding posts, adjustable locking side-contacts and cylindrical trunnion bearings. Breakage of tension springs cannot disable gong. Contacts regularly platinum, but will be furnished pure platinum, if specially ordered, at additional price. Wound to any special resistance at standard list additions shown elsewhere in this

catalogue; also furnished converted-single-stroke when specially ordered at \$2.50 net additional, but for important single-stroke work multiple gear single-stroke bells are recommended.

Cat. No.	Size Gong Inches	Frame No.	Resistance Ohms	Std. Pkg.	Price Each
O- 2 1/2	2 1/2	1	3	8	\$5.70
O- 3	3	1	3	8	6.05
O- 4	4	1	3	8	7.10
O- 5	5	2	4	8	9.35
O- 6	6	2	4	12	10.55
O- 8	8	3	5	6	16.00
O-10	10	4	5	4	24.85
O-12	12	X-5	5	4	31.00
O-14	14	X-5	5	2	62.00
O-16	16	6	8	1	123.70
O-18	18	6	8	1	143.25

Ekla Skeleton Bells

Schedule E

Model Z Vibrating Type

For Battery Circuits Only

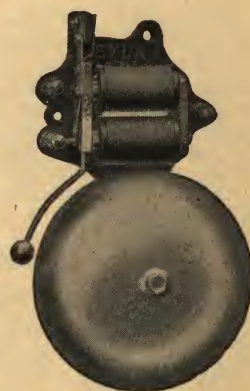
Ekla Skeleton Bells are slightly lower in price than Faraday and admitted not as desirable for important signal work.

They have reed-type armatures with substantial back-tension adjustments, side-contacts and non-turning binding posts.

Frames finished in dull black enamel, gongs polished nickel.

Pure silver contacts, wound to any special resistance at standard list additions shown elsewhere in the catalogue; will be furnished converted-single-stroke, when specially ordered at \$2.50 net additional; but for important single-stroke work, multiple-gear single-stroke gongs are recommended.

Cat. No.	Size Gong Inches	Resistance Ohms	Std. Pkg.	Price Each
Z- 2 1/2	2 1/2	3	8	\$5.25
Z- 3	3	3	8	5.55
Z- 4	4	3	8	6.60
Z- 5	5	4	8	7.80
Z- 6	6	4	12	8.85
Z- 8	8	5	6	14.35
Z-10	10	5	4	21.30
Z-12	12	5	4	27.50





Faraday Enclosed Type Buzzer

Schedule E



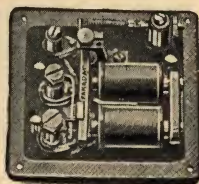
Nos. 93, 99 and 101

proofed; soft rubber gasket between frame and cover guards against outside moisture and dust. Contacts regularly platinum—pure platinum when specially ordered.

Models 93, 99 and 101 are enclosed type with covers.

Absolutely dependable signaling units, frequently more desirable than bells. High-power armatures, rubber-gasketed covers. All terminals mounted on Bakelite pads completely insulating same from frame.

Models 89 and 91 have same mechanism as above buzzers, but are not furnished with covers.



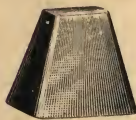
Nos. 89 and 91

Without Cover

Cat. No.	Size Inches	Std. Pkg.	Battery Circuit	PRICE, EACH		
				110-125 Volts D. C.	12-18 Volt, A. C. Trans. Circuit	100-110 Volts A. C.
89	1 $\frac{15}{16}$ x1 $\frac{15}{16}$ x1 $\frac{15}{16}$	6	\$6.60	.....	\$12.00	.....
With Cover						
93	2 $\frac{9}{16}$ x2 $\frac{9}{16}$ x1 $\frac{1}{4}$	6	\$7.05	.....	\$12.50	.....
Without Cover						
91	2 $\frac{9}{16}$ x2 $\frac{9}{16}$ x1 $\frac{1}{16}$	6	\$6.60	.....	\$12.00	.....
With Cover						
99	3 $\frac{1}{8}$ x3 $\frac{1}{2}$ x1 $\frac{7}{8}$	6	\$7.95	.....	\$13.40	.....
101	4 $\frac{1}{16}$ x4 $\frac{3}{16}$ x2 $\frac{3}{8}$	6	9.35	\$17.55	14.80	\$23.00
94	4 $\frac{3}{4}$ x4 $\frac{3}{8}$ x2 $\frac{3}{8}$	6	11.20	19.40	16.65	24.85

Faraday Bells with Fancy Gongs

Schedule E



Cow Gong



Dome Gong



Sleigh Gong

Furnished with polished, nickel-plated fancy gongs in place of standard round gongs; desirable where a different sounding or a particularly penetrating sound bell is needed; have high-power armature. Breakage of spring cannot disable gong. All terminals are mounted on Bakelite pads, completely insulating same from frame and enabling gong to be mounted on metal lathing or damp walls without fear of grounding.

Can be furnished, on special orders, at slight additional cost, to operate on 110 and 220-volt D. C. circuits and on transformer and 110 and 220-volt A. C. circuits.

Specify model No. and voltage when ordering.

Skeleton Bells

Cat. No.	Description	Size Gong Inches	Frame No.	Resistance Ohms	Std. Pkg.	Price, Each for Battery Circuits
O-112	Cow	1 $\frac{3}{4}$ x2 $\frac{1}{2}$	1	3.2	1	\$9.05
O-23	"	2 x3	1	3.2	1	9.20
O-35	"	3 $\frac{1}{8}$ x5	2	4	1	15.85
O-46	"	4 $\frac{1}{4}$ x6	3	5	1	34.55
O-111	Sleigh	1 $\frac{1}{2}$ x1 $\frac{3}{4}$	1	3.2	1	9.05
O-21	Dome	2 $\frac{1}{2}$ x1 $\frac{1}{4}$	1	3.2	1	9.05

Enclosed Type Bells

A-111	Sleigh	1 $\frac{1}{2}$ x1 $\frac{3}{4}$	0	2	1	\$11.80
A-21	Dome	2 $\frac{1}{2}$ x1 $\frac{1}{4}$	0	2	1	11.80

Enclosed Type, with Cow Gongs

Cat. No.	Size Gong Inches	Battery	PRICE, EACH	
			110-125 Volts, D. C.	220-250 Volts, D. C.
A-112	1 $\frac{3}{4}$ x2 $\frac{1}{2}$	\$11.80	.....	.....
A-23	2 x3	12.00	\$20.20	\$28.45
A-35	3 $\frac{1}{8}$ x5	23.10	35.80	48.55
A-46	4 $\frac{1}{4}$ x6	40.40	55.35	70.30

Faraday Signal Gongs

Schedule E

Enclosed Type, Vibrating, Weatherproof

For Battery and D. C. Light and Power Circuits

Designed for use on battery circuits, 110-225 volt and 220-250-volt D. C. light and power circuits. Equipped with high-power armature. Breakage of tension spring does not disable gong. Contacts regularly platinum. Pure platinum can be furnished when so ordered. Bauer-Barff finished gong. Gongs to be wired in multiple.

Specify model number and voltage when ordering.

Model A

Non-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	PRICE, EACH		
			100 to 125-v. D. C.	220 to 250-v. D. C.	
A-1 $\frac{3}{4}$	6	\$6.60	Not Made	Not Made	
A-2	6	7.25	"	"	"
A-2 $\frac{1}{2}$	6	7.80	"	"	"
A-3	6	8.85	"	"	"
A-4	6	10.85	\$19.05	\$27.30	
A-5	6	15.80	27.90	40.00	
A-6	6	17.80	30.50	43.25	
A-8	4	22.00	36.95	51.90	
A-10	2	36.95	54.90	72.85	
A-12	2	49.90	67.80	85.80	
A-14	2	76.50	97.45	118.40	
A-16	1	129.25	159.15	189.10	
A-18	1	146.90	176.85	206.75	



Model B

Half-grid-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	PRICE, EACH	
			100 to 125-v. D. C.	220 to 250-v. D. C.
B-4	6	\$17.60	\$25.80	\$34.05
B-5	6	22.95	35.10	47.20
B-6	6	25.00	37.70	50.40
B-8	4	31.70	46.70	61.60
B-10	2	49.65	67.60	85.55
B-12	2	67.10	85.05	103.00
B-14	2	101.20	122.15	143.10



Model C

Full-grid-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	PRICE, EACH	
			110 to 125-v. D. C.	220 to 250-v. D. C.
C-4	6	\$28.80	\$37.00	\$45.20
C-5	6	36.75	48.85	60.95
C-6	6	38.75	51.45	64.20
C-8	4	48.15	63.15	78.10
C-10	2	69.85	87.80	105.75
C-12	2	91.80	109.75	127.70
C-14	2	128.85	149.80	170.75



Model CW

Full-screen-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	PRICE, EACH	
			110-125 Volts D. C.	220-250 Volts D. C.
CW-5	6	\$36.75	\$48.85	\$60.95
CW-6	6	38.75	51.45	64.20
CW-8	4	48.15	63.15	78.10
CW-10	2	69.85	87.80	105.75
CW-12	2	91.80	109.75	127.70
CW-14	1	128.85	149.80	170.75

Conduit Pattern

Add P to above Model Nos. and following additions to above prices.

Size Gong In.	Price Each	Size Gong In.	Price Each	Size Gong In.	Price Each	Size Gong In.	Price Each
4	\$8.45	5, 6	\$10.10	8, 10	\$12.35	12	\$15.35

Inspectors' Pattern

Add I to above Model Nos. and following additions to prices shown above.

Size Gong In.	Price Each	Size Gong In.	Price Each	Size Gong In.	Price Each	Size Gong In.	Price Each
4	\$13.90	5, 6	\$18.50	8, 10	\$28.85	12	\$32.10



Faraday Transformer Signal Gongs

Schedule E

Enclosed Type, Vibrating, Weatherproof

For Transformer, A. C. Light and Power Circuits

For use on 12-18 volt A. C. bell ringing transformer or battery, and 100-110-volt and 220-250 volt A. C. light and power circuits, 50-60 cycles standard—25, 30 and 40 cycles to order.

The design and operation of mechanism is different from ordinary signal gongs. The vibration is so rapid that it is as satisfactory for code signaling as a single-stroke gong. Furnished to operate in multiple only—without external resistance. Specify model number, voltage and cycles when ordering.



Model AT

Non-guarded Gongs

Cat. No.	Size In.	Std. Pkg.	To OPERATE ON		
			A. C. 18 Volt Transformer Circuits or Battery	100-110 Volt A. C. Circuits	220-250 Volt A. C. Circuits
AT-4	4	6	\$16.30	\$24.55	\$32.75
AT-5	5	6	25.00	37.10	49.20
AT-6	6	6	27.30	40.00	52.75
AT-8	8	4	33.15	48.10	63.05
AT-10	10	2	52.65	70.60	88.55
AT-12	12	2	59.90	77.80	95.75

Model BT

Half-grid-guarded Gongs

Cat. No.	Size In.	Std. Pkg.	To OPERATE ON		
			A. C. 18 Volt Transformer Circuits or Battery	100-110 Volt A. C. Circuits	220-250 Volt A. C. Circuits
BT-4	4	6	\$23.05	\$31.25	\$39.50
BT-5	5	6	32.15	44.30	56.40
BT-6	6	6	34.50	47.20	59.90
BT-8	8	4	42.85	57.80	72.80
BT-10	10	2	65.40	83.35	101.30
BT-12	12	2	77.05	95.00	112.95



Model CT

Full-grid-guarded Gongs

Cat. No.	Size In.	Std. Pkg.	To OPERATE ON		
			A. C. 18 Volt Transformer Circuits or Battery	100-110 Volt A. C. Circuits	220-250 Volt A. C. Circuits
CT-4	4	6	\$34.25	\$42.50	\$50.70
CT-5	5	6	45.95	58.05	70.15
CT-6	6	6	48.25	60.95	73.70
CT-8	8	4	59.30	74.30	89.25
CT-10	10	2	85.60	103.50	121.50
CT-12	12	2	101.75	119.70	137.65



Model CWT

Full-screen-guarded Gongs

Cat. No.	Size In.	Std. Pkg.	To OPERATE ON		
			12-18 V. Trans. Circuits or Battery	100-110 Volt A. C. Circuits	220-250 Volt A. C. Circuits
CWT-5	5	6	\$45.95	\$58.05	\$70.15
CWT-6	6	6	48.25	60.95	73.70
CWT-8	8	4	59.30	74.30	89.25
CWT-10	10	2	85.60	103.50	121.50
CWT-12	12	2	101.75	119.70	137.65



For conduit pattern add P to above model Nos. and following additions to prices shown above.

Size, Gong, inches	4	5 and 6	8 and 10	12
Price, each	\$8.45	10.10	12.35	15.35

For inspector's pattern add I to above model Nos. and following additions to prices shown above.

Size, Gong, inches	4	5 and 6	8 and 10	12
Price, each	\$13.90	18.50	28.85	32.10

Faraday Single-stroke Signal Gongs

Schedule T

Enclosed Type

For Battery and D. C. Light and Power Circuits

Have powerful, long-movement mechanisms. No possibility of a double stroke as semi-flexible, recoil-type hammer-rod is operated by multiple gear between the armature and hammer-rod, guaranteeing a clear, unmuffled single blow on gong. This type of gong is best connected in series, although multiple connection can be made if necessary. Cannot be used on A. C. circuits. All terminals are mounted on Bakelite pads. Have heavy black enameled cast iron bases and rubber-gasketed covers—Bauer-Barff finished gongs, etc.

Specify model No. and voltage, when ordering.



Model AS

Non-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	To OPERATE ON	
			110-125 Volts D. C.	220-250 Volts D. C.
AS-4	1	\$18.35	\$26.55	\$34.75
AS-5	1	24.75	36.85	48.95
AS-6	1	26.80	39.50	52.20
AS-8	1	33.20	48.15	63.10
AS-10	1	54.90	72.85	90.80
AS-12	1	70.85	88.80	106.75
AS-14	1	97.45	118.40	139.35
AS-16	1	159.15	189.05	218.95
AS-18	1	176.85	206.75	236.65

Model BS

Half-grid-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	To OPERATE ON	
			110-125 Volts D. C.	220-250 Volts D. C.
BS-4	1	\$25.05	\$33.25	\$41.45
BS-5	1	31.95	44.05	56.15
BS-6	1	33.95	46.65	59.35
BS-8	1	42.95	57.90	72.85
BS-10	1	67.60	85.55	103.50
BS-12	1	88.05	106.00	123.95
BS-14	1	122.15	143.10	164.05



Model CS

Full-grid-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	To OPERATE ON	
			110-125 Volts D. C.	220-250 Volts D. C.
CS-4	1	\$36.25	\$44.45	\$52.65
CS-5	1	45.70	57.80	69.90
CS-6	1	47.70	60.40	73.10
CS-8	1	59.40	74.35	89.30
CS-10	1	88.10	106.05	124.00
CS-12	1	112.70	130.65	148.60
CS-14	1	149.80	170.75	191.70



Model CWS

Full-screen-guarded Gongs

Cat. No.	Std. Pkg.	Battery Circuit	To OPERATE ON	
			110-125 Volts D. C.	220-250 Volts D. C.
CWS-5	1	\$45.70	\$57.80	\$69.90
CWS-6	1	47.70	60.40	73.10
CWS-8	1	59.40	74.35	89.30
CWS-10	1	88.10	106.05	124.00
CWS-12	1	112.70	130.65	148.60
CWS-14	1	149.80	170.75	191.70



For conduit pattern add P to above model Nos. and following additions to prices shown above.

Size, Gong, inches	4	5 and 6	8 and 10	12	14	16 and 18
Price, each	\$8.45	10.10	12.35	15.35	18.70	24.70

For inspector's pattern add I to above model Nos. and following additions to price shown above.

Size, Gong, inches	4	5 and 6	8 and 10	12	14	16 and 18
Price, each	\$13.90	18.50	28.85	32.10	38.75	70.40



Faraday Single-stroke Transformer Signal Gongs

Schedule T

Enclosed Type

For 12-18 Volt Transformer and 100-125 Volt
and 220-250 Volt, 50-60 Cycle A.C. Circuits
25-30 and 40 Cycles to Order

Design of mechanism is in accordance with latest engineering standard—with laminated cores to minimize magnetic losses and light moving parts to insure best results. Gongs listed below are wired for operation in multiple on voltages specified, but special resistance gongs will be furnished, when specified, to operate in series on 100-125 volt and 220-250 volt A. C. circuits. Have heavy black-enameled cast-iron bases, with closely fitted rubber-gasketed covers, guarding against dampness and dust. All terminals are mounted on Bakelite pads—obviating necessity of bushing current-carrying studs where they pass through castings.

Specify model No., voltage and cycles when ordering.



Model ATS

Non-guarded Gongs

Cat. No.	Std. Pkg.	To OPERATE ON		
		12-18-v. Trans. Circuit	100-125 Volts A. C.	220-250 Volts A. C.
ATS- 6	1	\$26.80	\$39.50	\$52.20
ATS- 8	1	33.20	48.15	63.10
ATS-10	1	54.90	72.85	90.80
ATS-12	1	70.85	88.80	106.75

Model BTS

Half-grid-guarded Gongs

Cat. No.	Std. Pkg.	To OPERATE ON		
		12-18-v. Trans. Circuit	100-125 Volts A. C.	220-250 Volts A. C.
BTS- 6	1	\$33.95	\$46.65	\$59.35
BTS- 8	1	42.95	57.90	72.85
BTS-10	1	67.50	85.55	103.50
BTS-12	1	88.05	106.00	123.95



Model CTS

Full-grid-guarded Gongs

Cat. No.	Std. Pkg.	To OPERATE ON		
		12-18-v. Trans. Circuit	100-125 Volts A. C.	220-250 Volts A. C.
CTS- 6	1	\$47.70	\$60.40	\$73.10
CTS- 8	1	59.40	74.35	89.30
CTS-10	1	88.10	106.05	124.00
CTS-12	1	112.70	130.65	148.60

Model CWTS

Full-screen-guarded Gongs

Cat. No.	Std. Pkg.	To OPERATE ON		
		12-18-v. Trans. Circuit	100-125 Volts A. C.	220-250 Volts A. C.
CWTS- 6	1	\$47.70	\$60.40	\$73.10
CWTS- 8	1	59.40	74.35	89.30
CWTS-10	1	88.10	106.05	124.00
CWTS-12	1	112.70	130.65	148.60



For conduit pattern add P to above model Nos. and following additions to prices shown above.

Size, Gong, inches 4 5 and 6 8 and 10 12 14 16 and 18
Price...each \$8.45 10.10 12.35 15.35 18.70 24.70

For inspectors pattern add I to above model Nos. and following additions to prices shown above.

Size, Gong, inches 4 5 and 6 8 and 10 12 14 16 and 18
Price...each \$13.90 18.50 28.85 32.10 38.75 70.40

Faraday Hammer-blow Signal Gongs

Schedule E

For Battery and D. C. Circuits



Model AH



Model BH



Model CH

Models AH, BH and CH have mechanisms that give a long slow, hammer-blow movement, very similar to a powerful electro-mechanical gong. Should be operated on battery sets of not less than 50 ampere capacity.

Can be furnished to operate on 110 to 220-volt D. C. circuits at standard list additions. Specify voltage when ordering.

Enclosed Type

Size Gong In.	Std. Pkg.	Model AH Non-guarded		Model BH Half-guarded		*Model CH Full-guarded	
		Cat. No.	Price, Each	Cat. No.	Price, Each	Cat. No.	Price, Each
4	6	AH- 4	\$32.25	BH- 4	\$40.70	CH- 4	\$54.70
5	6	AH- 5	42.20	BH- 5	51.15	CH- 5	68.35
6	6	AH- 6	44.75	BH- 6	53.70	CH- 6	70.90
8	4	AH- 8	55.60	BH- 8	67.70	CH- 8	88.25
10	2	AH-10	87.35	BH-10	103.20	CH-10	128.50
12	2	AH-12	107.25	BH-12	128.75	CH-12	159.60
14	2	AH-14	140.55	BH-14	171.35	CH-14	206.00
16	1	AH-16	227.00	.....	.....	.....	.....
18	1	AH-18	249.10	.....	.....	.....	.....

*Full screen-guarded gongs can be furnished 5 inches and up at same prices as model CH. Change Cat. No. to CWH instead. For conduit patterns, add the letter P to Cat. No. Prices upon application.

Faraday Electro-mechanical Signal Gongs

Schedule T

Enclosed Type, Vibrating or Single Stroke
Open and Closed Circuit Types for Battery,
D.C. and A.C. Circuits



Electro-mechanical gongs are designed to give a very loud, powerful signal, with a minimum of current. The blow itself on the gong is struck by a heavy ball on the end of a lever, released by the electric current, but operated by a powerful clock spring.

Faraday Electro-mechanical gongs give approximately 700 blows with one winding, and at \$5.00 net additional per gong they will be furnished, when specially ordered, with reliable rewind signal contactor to which may be connected a tell-tale bell to give notification whenever a gong needs re-

winding. It will also give warning if, from any cause, the main spring of the mechanism should break.

Regularly furnished with knockouts for 1/2 or 3/4-inch conduit, as specified, in four sides of the box.

STANDARD FINISH.—Dull black enamel with gunmetal gongs. Cases, when specially ordered, will be furnished without additional charge, in English vermilion finish.

Size Gong Inches	Regular Resistance Ohms	Model E, for Regular Installations without Conduit		Model EP, with Conduit Box Back for Exposed Conduit	
		Cat. No.	Price Each	Cat. No.	Price Each
8	20	E- 8	\$91.25	EP- 8	\$103.60
10	20	E-10	101.75	EP-10	114.05
12	20	E-12	112.20	EP-12	124.55
14	20	E-14	125.65	EP-14	138.00
16	20	E-16	155.60	EP-16	167.95
18	20	E-18	170.55	EP-18	182.90



Faraday Double-gong Bells

Schedule T

Enclosed Type, Vibrating, Weather-proof



Double-gong Faraday bells are desirable where an extremely penetrating signal is required; they are made for both battery and D.C., as well as transformer and A.C. circuits. Regularly furnished for operations in multiple, but will be furnished to operate in series on lighting

and power circuits when specially ordered.

For Battery and D. C. Circuits
Model D

Cat. No.	Size Each Gong In.	Std. Pkg.	PRICE, EACH		
			Battery	110-125 Volts D.C.	220-250 Volts D.C.
D-4	4	1	\$20.40	\$30.60	\$41.00
D-5	5	1	29.60	44.80	59.90
D-6	6	1	33.35	49.30	65.15
D-8	8	1	41.20	59.90	78.60
D-10	10	1	69.25	91.70	114.15
D-12	12	1	93.55	116.00	138.45
D-14	14	1	143.55	169.70	195.90
D-16	16	1	242.35	279.75	317.15
D-18	18	1	275.50	312.90	350.30

Specify model No. and voltage when ordering.

For Transformer and A. C. Circuits

50-60 Cycles
(25-30 and 40 Cycles to Order)

Model DT

Cat. No.	Size Each Gong In.	Std. Pkg.	PRICE, EACH		
			12-18 V. A. C. Transformer	100-125 Volts A. C.	220-250 Volts A. C.
DT-4	4	1	\$30.60	\$40.85	\$51.15
DT-5	5	1	46.80	62.00	77.10
DT-6	6	1	51.25	67.15	83.05
DT-8	8	1	62.15	80.85	99.55
DT-10	10	1	98.75	121.20	143.60
DT-12	12	1	112.20	134.65	157.10

Specify model No., voltage and cycles when ordering.

For conduit pattern, add P to model No. and following additions to list.

Size Gong Inches	Price Each	Size Gong Inches	Price Each	Size Gong Inches	Price Each
4	\$10.55	8	\$15.40	14	\$23.40
5	12.65	10	15.40	16	30.90
6	12.65	12	19.15	18	30.90

Loud Ringing Magneto-extension

For All A.C. Magneto Generator Circuits of 16 2/3 Cycles

Model M

Model M Loud-ringing Magneto-extension Faraday Bells have polarized type mechanisms with permanent magnets—entirely different from the regular double-gong bell.

Under certain line conditions, the operation of Model M bells is greatly improved by use of condensers which are listed in two capacities. Prices do not include condensers.

Cat. No.	Size Gong In.	Resistance Ohms per Pair Magnets	Price Each	Cat. No.	Size Gong In.	Resistance Ohms per Pair Magnets	Price Each
M-680	6	80	\$50.85	M-81600	8	1600	\$76.65
M-61000	6	1000	50.85	M-82500	8	2500	82.50
M-61600	6	1600	53.10	M-1080	10	80	83.80
M-62500	6	2500	58.95	M-101000	10	1000	83.80
M-880	8	80	74.45	M-101600	10	1600	86.00
M-81000	8	1000	74.45	M-102500	10	2500	91.85

For conduit pattern add "P" to Cat. No. and following additions to prices.

Size Gong.....	inches	6	8-10
Price.....	each	\$12.65	15.40

Condensers

Cat. No.	Capacity	Price Each
CMF-2	2MF	\$8.30
CMF-4	4MF	16.60

Faraday Underdome Signal Gongs

Schedule T

Enclosed Type, Vibrating, Weatherproof

For Battery and D. C. Circuits and Transformer and A. C. Circuits



Regular Pattern



Conduit Pattern

Underdome Faraday Gongs are ideal in design because they do not follow the old-pattern projecting neck type lines. The mechanisms are self-contained—protected by the gong and base-casting and their design harmonizes with high-class building standards to a most satisfactory degree.

Battery and D. C. types have long, powerful, multiple-gear pattern armature, giving a slow, dignified signal of great power and penetration.

Transformer and A. C. circuit types are notable in that they have no contacts of any sort whatever. They vibrate in unison with the line frequencies, and are so rapid in their vibrations as to be practically as satisfactory as single-stroke gongs for code-signaling, while giving many times louder signals.

For Battery and D. C. Circuits

Model U—Non-conduit Pattern

Cat. No.	Size Gong In.	Std. Pkg.	PRICE, EACH		
			Battery	110-125 Volts D.C.	220-250 Volts D.C.
U-8	8	1	\$83.35	\$102.05	\$120.75
U-10	10	1	123.50	145.95	168.35

Model UP—Surface Conduit Pattern

UP-8	8	1	\$106.45	\$125.15	\$143.85
UP-10	10	1	152.20	174.65	197.10

Model UFP—Flush Conduit Pattern

UFP-8	8	1	\$98.75	\$117.45	\$136.15
UFP-10	10	1	139.00	161.40	183.85

For Transformer and A. C. Circuits

50-60 Cycles
(25-30 and 40 Cycles to Order)

Model UT—Regular Pattern

Cat. No.	Size Gong In.	Std. Pkg.	PRICE, EACH		
			12-18 Volts A.C. Trans.	100-110 Volts A.C.	220-250 Volts A.C.
UT-8	8	1	\$83.35	\$102.05	\$120.75
UT-10	10	1	123.50	145.95	168.35

Model UTP—Surface Conduit Pattern

UTP-8	8	1	\$106.45	\$125.15	\$143.85
UTP-10	10	1	152.20	174.65	197.10

Model UTFP—Flush Conduit Pattern

UTFP-8	8	1	\$98.75	\$117.45	\$136.15
UTFP-10	10	1	139.00	161.40	183.85

Specify model No., voltage and cycles when ordering.



Faraday Special Resistance Windings

Schedule R

For Faraday and Ekla Skeleton and Enclosed Type Bells and Buzzers

The price additions shown below do not apply to A. C. Regular resistance vibrating bells will operate satisfactorily on battery and D. C. circuits at the voltage shown in tables listing various types of bells, but when gongs are to be operated on higher voltage circuits, or when a number of gongs are to be operated simultaneously in multiple on a circuit, gongs wound to higher resistance must be used.

Faraday Enclosed Type Vibrating Gongs will be furnished when ordered, for operation on 600 volts D. C. street railway circuits; in following 2 resistances, viz:

(a) Regular Enclosed Type wound to 150 ohms resistance connected as per blueprint with five 60-watt lamps.

(b) Special Enclosed Type (to order only) wound to 1000 ohms resistance connected in series with Faraday Resistance Panel.

Resistances of transformer gongs for A. C. circuits are entirely arbitrary and cannot be figured on the same basis as shown below for D. C. circuits.

For A. C. circuits, transformer single-gong bells, transformer under-dome gongs or transformer double-gong bells should invariably be used. All Faraday Transformer Gongs, single-gong pattern, have carbon contacts. Double-gong bells may be connected in series (when wound to proper resistance for this work) and when so connected, the total number of gongs on the circuit requires no more current than one gong would require in multiple.

Triplex contacts will be furnished, when specially ordered, at slight additional cost on all Faraday Vibrating Gongs and Buzzers, except the smallest size on No. 00 frames.

Single-stroke and electro-mechanical gongs have no contacts. Resistance of single-stroke gongs is approximately one-fourth that of vibrating gongs when designed for operation on similar voltages.

Ohms Resistance for Operation of Faraday Vibrating Gongs on Direct Current Voltages without Excessive Sparking at Contacts

Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages	Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages	Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages
5	6-10	200	35-45	500	105-110
10	10-15	250	45-55	550	110-120
20	15-20	300	55-65	1000	120-130
50	20-25	350	65-80	2000	220-240
100	25-30	400	80-95	*150	500-600
150	30-35	450	95-105	†1000	500-600

*To operate with bank of five 60-watt lamps.

†To operate with Faraday resistance panel.

Special Resistance Winding List, Additional per Gong Ohms Resistance per Pair Magnets

Resistance Ohms	Size, Inch Up to 4 Inches Incl. and Buzzers	5 and 6	8	10, 12, 14	16 & 18
0-10	\$3.05	\$4.65	\$6.25	\$8.15	\$15.15
11-20	3.75	5.45	7.15	9.00	22.90
21-50	4.55	6.15	8.00	9.95	31.50
51-100	5.80	7.45	9.30	11.15	32.50
101-150	7.00	9.90	10.55	12.45	33.50
151-200	8.30	11.20	11.90	13.75	34.50
201-300	9.50	12.45	13.25	16.20	35.40
301-500	10.80	13.65	14.70	19.40	36.50
501-1000	13.25	16.20	18.45	21.90	37.40
1001-1500	15.80	18.50	21.50	28.15	38.65
1501-2000	18.25	21.25	25.00	35.00	57.95

Special Features

Faraday skeleton and enclosed type signal gongs and buzzers.

Faraday vibrating gongs converted to single-stroke will be furnished when specially ordered at \$2.50 net per gong extra.

Size Gong and Buzzers	Platinum	Triplex Platinum	Triplex Pure Platinum
Up to 6	\$1.90	\$3.75	\$5.60
8 " 10	2.50	4.40	7.50
12 " 14	2.50	5.00	9.40
16 and longer	2.50	6.25	11.25

Benjamin Direct Current Industrial Signals

Benjamin Industrial Signals are designed to be used in connection with interior and exterior calling or warning systems, or a combination of the two. They can be used on manually or automatically controlled signal systems, or in combination with gongs or bells.

For use on multiple arrangement only, and can be used successfully on circuits carrying a voltage as high as 250 volts, D. C. When six or eight signals are to be used on one system, no lower voltage than 30 volts, D. C. should be used. Sounding mechanism is of the vibrator type with make and break contact points of coin silver having large contact area. Contact springs are of the best grade spring bronze and mounted independent of the armature. Adjusting screw is self-locking and is unaffected by mechanical vibration. Special adjusting means, accessible through the projector, is provided for increasing or decreasing the volume of tone and governing the tone pitch.

No. 8326H Heavy Duty Weatherproof



Cast iron back cover or body, with two mounting lugs, tapped for 1/2-inch pipe connection. Pressed steel front cover is rigidly attached to a one-piece drawn-brass bell-type sound projector. Rubber gasket makes mechanism waterproof. Black enamel finished.

Ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8326H	Brass Bell	1/2-inch Conduit	*	\$12.00

No. 8326A Heavy Duty Non-weatherproof



Pressed steel back cover with side opening having approved insulated wire entrance accommodating open wiring. Pressed steel front cover, with mounting bracket attached, is rigidly fastened to a one-piece drawn-brass bell-type sound projector. Wire connections easily accessible by loosening two screws and removing back. Black enamel finished.

Ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8326A	Brass Bell	Open Wiring	*	\$10.00

No. 8354A Heavy Duty Non-weatherproof



Same as No. 8326A except that it is equipped with 9-inch conical sound projector which confines volume of tone in one direction.

Cat. No.	Projector	Connection	Voltage	Price Each
8354A	9-in. Conical	Open Wiring	*	\$9.70

*Standard voltage on all above signals is 110 volts D. C., but any voltage from 6 to 250 D. C. inclusive may be specified, without change in price. Specify voltage when ordering.



Benjamin Alternating Current Industrial Signals

May be operated on multiple or series circuits, or in connection with vibrator or single stroke gongs or other electrical signal equipment. When signal is used in series with other electrical devices, special windings are used to allow passage of sufficient current to operate the other devices on the same line. A 10 per cent variation in voltage will in no wise affect the working of the signals. Weatherproof casings are recommended when signal is to be used outside. Sounding mechanism is of the vibrator type. Vibrations result from alternating current cycles; no make and break contacts required, no adjustments needed and signal will operate continuously without attention.

No. 8355A Heavy Duty Non-weatherproof



Pressed steel back cover with side opening for approved insulated wire entrance accommodating open wiring. Pressed steel front cover, with mounting bracket rigidly attached to a one-piece drawn-brass bell-type sound projector. Wire connections are easily accessible by loosening two screws and removing back. Black enamel finished.

Ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8355A	Brass Bell	Open Wiring	*	\$7.30

No. 8152L Factory Non-weatherproof



Same as No. 8355A except that it is equipped with a 9-inch conical sound projector which confines volume of tone in one direction.

Cat. No.	Projector	Connection	Voltage	Price Each
8152L	9-in. Conical	Open Wiring	*	\$7.00

No. 8152S Factory Weatherproof



Pressed steel back and front cover, with mounting bracket attached to front cover. Electrical connection made through wire insulated leads entering front cover. Equipped with one-piece drawn-brass bell-type sound projector rigidly attached to front cover. Signal made weatherproof by rubber gasket and sealing wire entrance. Black enamel finished.

Ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8152S	Brass Bell	Open Wiring	*	\$10.00

No. 8346H Heavy Duty Weatherproof



Cast iron back cover or body. Pressed steel front cover rigidly attached to one-piece drawn-brass bell-type sound projector. Signal made weatherproof by rubber gasket. Black enamel finished.

Ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8346H	Brass Bell	1/2-in. Conduit	*	\$10.00

*Standard voltage on all above signals is 110 volts A. C., but any voltage from 6 to 250 A. C. inclusive furnished at same price. Specify voltage when ordering.

Benjamin Weatherproof Fire Alarm Signals



No. 8360 D. C.

Sounding mechanism is of the vibrator type for both D. C. and A. C. circuits. Signals, Nos. 8864-8866 are especially built for use on fire-alarm systems operating under stringent regulations and have been approved by the Industrial Commission of the State Department of Labor, New

York City, to be used with standard approved fire alarm board. 8-14-volt or 14-8-volt signals may be used in series without condenser on the panel board, but where 14-14-volt signals are used a condenser must be supplied on the board. 110-volt signals may be used for open circuit work where a time-limit fuse or switch is inserted in the circuit. 8 and 14-volt signals may be used on same circuit. Tapped for 1/2-inch conduit, red enamel finished; ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8360	Brass Bell	1/2-in. Conduit	* D.C.	\$13.00
8361	" "	1/2 " "	* A.C.	11.00
8864	" "	1/2 " "	8 A.C.	13.00
8865	" "	1/2 " "	14 A.C.	13.00
8866	" "	1/2 " "	110 A.C.	13.00

*Standard voltage is 110 volts, D. C. or A. C., but any voltage from 6 to 250 D. C. or A. C., inclusive, may be specified, without change in price. Specify voltage when ordering.

Benjamin Alternating Current Buzzers

These heavy duty buzzers are equipped with vibrator-type mechanism. Vibrations are the result of alternating current cycles and no make and break contacts are required. No adjustments are needed and signal will operate continuously without attention. These signals may be operated successfully under all commercial conditions on multiple or series circuits. Weatherproof casings are recommended for outdoor use.

Heavy Duty Mine Buzzers

Cast brass cover, with three mounting lugs; conduit type is tapped for 1/2-inch pipe connection. On open wiring type, 8-inch insulated wire leads are furnished for outside connection. Black enamel finished; ten in a standard package.



No. 8299M
For 1/2-inch Conduit

Cat. No.	Projector	Connection	Voltage	Price Each
8299A	Weatherproof	Open Wiring	110 A.C.	\$6.00
8299M	"	1/2-In. Conduit	110 A.C.	9.00

No. 8297A Office and Factory Buzzers



One-piece pressed steel front cover has side opening with approved insulated wire entrance to accommodate open wiring. Pressed steel back plate, with mounting plates top and bottom. Black enamel finished; ten in a standard package.

Cat. No.	Projector	Connection	Voltage	Price Each
8297A	Non-weatherproof	Open Wiring	110 A.C.	\$4.50

All alternating current buzzers may be wound for voltages as high as 260 volts A. C. at no advance in list price.



G-E Wayne Bell Ringing Transformers Household Size



Cannot burn out, if accidentally short-circuited, complies with the National Electrical Code and is approved. Not only used for ringing bells and buzzers in the household, but for miscellaneous purposes, such as operating thermostats, electric door openers, etc.

50 to 140 Cycle

Cat. No.	VOLTAGE		APPROX. Length	DIMENS., INCHES		Wt., Lbs.	
	Primary	Second.		Width	Depth	Net	Ship.
G179541	110	12	2 3/8	2 3/8	2 1/4	3/4	2
G179542	220	12	2 1/2	2 3/8	2 1/4	1	2 1/2

25 to 49 Cycles

G192340	110	8	2 3/4	2 3/8	2 1/4	1 1/4	2 3/4
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Adapted to operate three 3-inch bells simultaneously.

G-E Wayne Bell Ringing Transformers Heavy Duty Size

Suitable for large gongs in factories, office buildings, mines, etc. Three secondary voltages are provided on account of the great diversity of service requirements.

Fuse protection should be provided immediately ahead of each transformer.



50 to 140 Cycles

Cat. No.	VOLTAGE		Cap. Watts	DIMENS., INCHES			Wt., Lbs.	
	Primary	Second.		Length	Width	Height	Net	Ship.
G219491	110	8/16/24	50	3 1/8	3 1/2	3 1/8	1 3/4	2 1/2
G219492	110	10/20/30	100	4 1/2	3 1/2	3 1/8	4	5 1/2
G219493	220	8/16/24	50	3 1/4	3 1/2	3 1/8	1 7/8	3
G219494	220	10/20/30	100	4 1/4	3 1/2	3 1/8	4 1/4	6

25 to 49 Cycles

G219489	110	7/13/20	50	3 3/4	3 1/2	3 1/8	2 5/8	4
G219490	110	8/16/24	100	4 3/4	3 1/2	3 1/8	5	7

The table below gives the number and size of bells which may be operated simultaneously by the various transformers.

50 to 140 Cycles No. and Size of Bells

G219491	12-4, 3-5, 1-7
G219492	30-4, 10-5, 8-7, 6-8, 5-10
G219493	12-4, 3-5, 1-7
G219494	30-4, 10-5, 8-7, 6-8, 5-10

25 to 49 Cycles

G219489	15-4, 4-5, 3-7, 1-10
G219490	30-4, 10-5, 8-7, 6-8, 5-10

G-E Wayne Toy Transformers



For the economical operation of electrical toys, a special line of G.E. Wayne Toy Transformers has been developed. They reduce the electric pressure taken from the ordinary house lighting circuit to a low voltage suitable for the operation of electrical toys.

Mounted on a black base, finished in black enamel and buffed nickel. Furnished complete with 10 feet of heavy cord and G-E No. 624 separable attaching plug.

Cat. No.	Cycles	Watts	Volts Primary	Wt., Lbs.	
				Net	Ship.
236093	50 to 140	50	110	3	3 1/4
258676	50 " 140	100	110	4 1/2	5
236094	25 " 49	50	110	4 1/2	5

50 to 140 Cycles

Cat. No.	Volts Secondary	
	Primary	Secondary
236093	4/6/8/10/12/14/16/18/20/22	
258676	4/6/8/10/12/14/16/18/20/22/24/26/28	

25 to 40 Cycles

236094	4/6/8/10/12/14/16/18/20/22
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No. 6 Columbia Ignitor Batteries

With Screw Top Connections



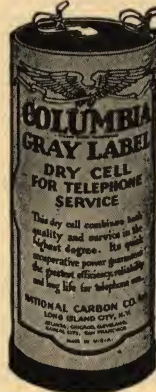
A special high grade cell designed for all heavy service. It is particularly adapted for motor ignition. A set of ignitors will keep the engine running smoothly until every bit of current is exhausted.

Equally satisfactory for motor boats, gas engines, and in fact, any service where a reliable, long life battery is needed.

These batteries are carefully packed and from fresh stock, guaranteed to reach their destination in perfect condition.

Size..... inches 2 1/2 x 6
Price, No. 6..... each \$.40

No. 6 Columbia Gray Label Batteries



The No. 6 is designed especially for telephone and light drain service.

Furnished with round jackets or square cartons.

Initial shipping amperage, 19 to 22 amperes.

No extra charge for convenient Fahnestock spring clip binding posts.

This battery is carefully packed from fresh stock.

Guaranteed to reach its destination in perfect condition.

Packed in wire-bound boxes of 50 cells to the box.

Cat. No.	Size In.	Wt., per Cell, Lbs.	Std. Pkg. Box	Wt., Lbs. Box	Price Each
6	2 1/2 x 6	2	50	125	300 \$.80

No. 7111 Dry Cell Radio A Batteries



No. 7111 is a single 6-inch dry cell battery having two screw knurls and put up in an attractive round fibre or square paper jacket.

Connected in various combinations to meet the requirements of WD-11, UV-199 and all other dry cell tubes.

No. 7111 will always be furnished in round jackets unless square cartons are specified and with screw knurls unless Fahnestock connectors are specified.

Battery No.	DIMEN., IN.			STANDARD PACKAGE		
	Voltage	Width	Height	Quan.	Wt. Lbs.	Price Each
7111	1 1/2	2 1/2	6	50	120	\$.40

Columbia Hot Shot Batteries

Cells are connected by soldered copper strips and encased in a single metal container.



The advantages of this new type covering are the ability to withstand rough usage, water-proof, thoroughly insulated to prevent internal short circuits and a woven fabric handle for convenience in carrying. It is only necessary to connect the wires to the

No.....	1461M	1562M	1662M
Voltage.....	6	7 1/2	9
Length.....	10 5/8	8	8
Width.....	2 3/4	5	5 3/8
Height Over All.....	7 1/2	7 1/2	7 1/2
Price.....each	\$2.20	2.60	3.10



Eveready Tungsten Batteries

Battery No.	Number of Cells	Hours of Service	Depreciation Months	No. of Mazda Bulb Required	Bulb Voltage	Price Each
**935	1	.....	.....	.....	.....	\$.15
**950	1	.....	.....	.....	.....	.17
700	2	1 to 1½	3	1180	.....	.30
733	3	3 " 5	4	1190	3.8	.40
706	2	1 " 2	3	1180	2.2	.25
750	2	2 " 3	3	1180	2.2	.30
790	2	8 " 12	6	1198	2.5	.35
791	2	3 " 5	4	1197	2.3	.30



*Continuous service.

†Months in which battery will stand on shelf without depreciating more than 10 per cent.

**Unit Cells. Two of No. 950 equivalent to one No. 790 battery; three No. 950 equivalent of one No. 705 battery; two No. 935 equivalent to one No. 791 battery.

Dry Cell Radio "A" Batteries

No. 7211—A two-cell battery connected in multiple; has two knurled terminals. Fibre case.

No. 7411. — A four-cell battery connected in multiple having two insulated knurled terminals. Steel case.



Battery No.	Container	Voltage	DIMENSIONS, INCHES			Quan. Std. Pkg.	Price Each
			Length	Width	Height		
7211	Fibre	1½	5½	2½	6¾	42	\$1.00
7411	Steel	1½	10½	2¾	6¾	12	2.20

No. 763 Eveready B Batteries



Especially suitable for use where light weight or small space is essential, such as in small portable sets.

Contains 15 cells, enclosed in waterproof cardboard box, equipped with two coil wire leads.

Initial voltage of 22½ volts.

Cat. No.	DIMENS., INCHES			Weight Ounces	Price Each
	Length	Width	Height		
763	3¾	2	2½	13	\$1.50

No. 764 Eveready Radio B Batteries

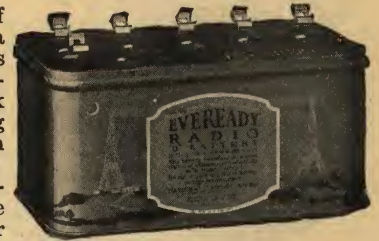


The new Eveready vertical type B battery 22½ volts. Occupies practically the same small table space as the small battery designed for portable sets, as No. 763, but as its cells are much larger, it has more than twice the service capacity. It is more economical than the smaller battery and is especially suited for use where table or cabinet space is limited. Contains 15 cells. Equipped with two Fahnestock spring clip connectors. Length, 3½ inches; width, 2½ inches; height, 5½ inches. Weight, 2½ pounds.

Price, No. 764.....each \$1.90

No. 766 Eveready B Batteries

Contains 15 cells of larger size and has a long service life. It is equipped with five positive Fahnestock Spring Clip Binding Posts ranging from 16½ to 22½ volts, making it the most desirable type for use with vacuum detector tubes, such as Radiotron, Model UV-200.



Cat. No.	DIMENS., INCHES			Weight	Price Each
	Length	Width	Height		
766	6¾	4	3	3 lbs. 7 oz.	\$2.50

No. 767 Eveready B Batteries



Contains 30 cells, 45 volts. Cells are large size, 2¼x1¼ inches. Equipped with 7 Fahnestock Spring Clip Connectors, giving voltages at 16½, 18, 19½, 21, 22½ and 45 volts.

Cat. No.	DIMENS., INCHES			Weight	Price Each
	Length	Width	Height		
767	8	6¾	3	8 lbs. 11 oz.	\$5.00

No. 768 Eveready Radio B Batteries for Radiola Grand and IV

Designed in size and connections for use in the battery cabinet of the Radiola Grand and Radiola IV receivers.

Contains 15 cells giving 22½ volts, equipped with one knurled screw binding post and one flexible wire lead.

Length, 4½ inches; width, 2½ inches; height, 2¾ inches. Weight, 1 pound, 9 ounces.



Price, No. 768.....each \$1.90

No. 771 Eveready Three Radio Batteries



This battery is a 4½-vol unit, containing three cells, provided with three Fahnestock Spring Clip Terminals.

It may be used in either the filament or A circuit, the plate or B circuit or the grid or C circuit.

A 4½-volt C battery is sufficient with most tubes when B battery voltages of not over 80 or 90 volts are used, and the signal is ordinarily loud. For B battery voltages up to 120 volts

from 6 to 9 volts of C battery gives better results.

One Eveready Three Battery can thus be used with entire success in the majority of cases and if more voltage is needed, additional batteries may be connected in series.

Price, No. 771.....each \$.60



Sterling Pocket Meters



Sterling Pocket Ammeters, Voltmeters and Voltammeters are always reliable and accurate. They not only indicate the strength or condition of batteries but are invaluable in locating ignition and starting trouble. They are especially valuable for this purpose because they show polarity and thus indicate the direction of the current.

They operate according to real scientific principles. The best permanent magnets obtainable are employed in connection with an electro magnet.

The ammeter is for testing dry cells; the voltmeter for storage batteries. The voltammeter, a combination of both ammeter and voltmeter, is invaluable to those who work with both dry and storage batteries.

Types 34B and 34C voltmeters are designed especially for testing "B" batteries.

Type 45 voltammeter is particularly useful in radio work in measuring the amperage of dry cells used for operating tubes and the voltage of "B" batteries.

Ammeters			
Type No.	Capacity	Divisions	Price Each
24	0-35 Amperes	1 Amp.	\$1.00
Voltmeters			
34	0-10 Volts	1/5 Volt	\$1.25
34B	0-30 "	1 "	2.25
34C	0-50 "	1 "	2.75
Voltammeters			
44	{ 0-35 Amperes 0-10 Volts	{ 1 Amp. 1/5 Volt	\$1.50
45	{ 0-35 Amperes 0-50 Volts	{ 1 Amp. 1 Volt	
			4.00

Standard Battery Connectors



Made of extra flexible rubber covered wire, having a heavy cotton braid. The terminals, as noted in illustration, are corrugated.

Price.....each \$0.04

No. 1 Dad's Electric Lanterns

General Purpose Portable Lanterns



With brass, heavily nickel-plated and highly polished push button switch, switch plate, lens cap, and bright black bail.

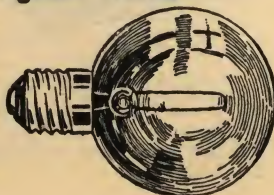
Equipped with new high efficiency tipless bulb, tungsten filament. Has large three-inch lens of polished glass with bulging bull's-eye effect. All metal, solid aluminum reflector, of high candle power. Throws light 300 feet. For hunting, camping, fishing, canoeing, frog shining, photography, etc.

Price, No. 1 Less Batteries.....each \$4.00

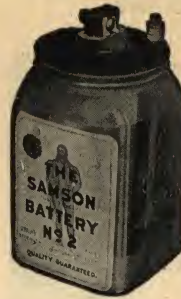
No. 41 Dad's Tungsten Bulbs

This lamp is made especially for use in Dad's Lanterns. High efficiency, tungsten electric bulb or lamp. Will withstand hard usage in hand lanterns and give long service. Uses less current.

Price, No. 41 Bulb...each \$3.35



Samson Batteries



The Samson Battery is a Sal Ammoniac primary wet cell, normal voltage, when fresh, approximately 1 1/2 volts. The positive element is a carbon stick with a bag assembly, containing the depolarizing element. The negative element is a cylindrical zinc.

No. 2 Batteries

For open circuit systems with infrequent or light intermittent operating discharge.

Description	Std. Pkg.	Price Each
No. 2 Battery Complete	50	\$3.20
Carbon	50	1.70
Zinc	100	.80
Sal Ammoniac, 5 Ounces	100	.30
Cover	100	.50
Jar, 6 1/2 x 4 3/4 x 4 3/4 Inches	50	.60
Star Fenders	100	.16

No. 3 Batteries

For open circuit systems with frequent or heavy intermittent operating discharge.

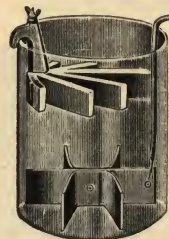
No. 3 Battery Complete	25	\$4.50
Carbon	50	2.10
Zinc	50	1.00
Sal Ammoniac, 9 Ounces	50	.50
Cover	25	.80
Jar, 7 x 5 1/4 x 5 1/4 Inches	25	1.00

No. 4 Batteries

For closed circuit systems. Where supervisory not over 20 mil-amperes and operating discharge infrequent.

No. 4 Battery Complete	25	\$4.70
Carbon	50	2.40
Zinc	50	1.00
Sal Ammoniac, 9 Ounces	50	.50
Cover	25	.80
Jar, 7 x 5 1/4 x 5 1/4 Inches	25	1.00

Gravity Batteries



Description	Price Each
Cell Complete, Less Blue Vitriol, 6x8 In	\$2.80
Glass Jar	1.20
Zinc	1.30
Copper	.30

Blue Vitriol

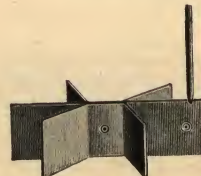
Prices quoted upon application.

Crowfoot Battery Zincs

Cat. No.	Size Jar Inches	Weight Pounds	Price Each
1	6x8	3	\$1.30
2	6x8	2 3/4	1.20
3	6x8	3 1/2	1.60
4	5x7	1 3/4	1.00



Battery Coppers



Made of brush copper, No. 32 B. & S. gauge, 13 inches of No. 14 rubber covered wire for connections.

Cat. No.	Size Inches	Size Jar Inches	Price Each
16	2x6	6x8	\$3.30
16 1/2	2x5	5x7	.20

Polarity Indicators

Liquid adjacent to negative pole turns red when indicator is placed in circuit.



Price, No. 3320, For Battery Work	each	\$3.40
" " 3321, " 50 to 600 Volts, D. C.	"	3.40



No. 3 Fahnestock Binding Posts



Will take No. 10 B. & S. Wire. Length over all, $1\frac{1}{8}$ inches. Width, $\frac{3}{8}$ inch. Screw hole for No. 8 screw.

Price, No. 3, Brass.....	each	\$.05
" " 3, Bronze.....	"	.06
" " 3, Nickeled Brass.....	"	.05
" " 3 " Bronze.....	"	.06

No. 5 Fahnestock Binding Posts

Will take No. 10 B. & S. Wire. Has projecting lug to which can be soldered a wire. Length over all, not including soldering lug, $1\frac{1}{8}$ inches. Width, $\frac{3}{8}$ inch. Screw hole for No. 8 screw.

Price, No. 5, Brass.....	each	\$.07
" " 5, Bronze.....	"	.08
" " 5, Nickeled Brass.....	"	.07
" " 5 " Bronze.....	"	.08



No. 9 Fahnestock Binding Posts



Will take No. 10 B. & S. Wire. Length over all, $2\frac{1}{8}$ inches. Width, $\frac{3}{8}$ inch. Screw hole for No. 8 screw.

Price, No. 9, Brass.....	each	\$.08
" " 9, Bronze.....	"	.10
" " 9, Nickeled Brass.....	"	.08
" " 9 " Bronze.....	"	.10

No. 24 Fahnestock Binding Posts

Will take No. 10 B. & S. Wire. Length over all, $1\frac{1}{8}$ inches. Width, $\frac{3}{8}$ inch. Made with either $\frac{1}{4}$ or $\frac{5}{8}$ -inch screw hole.

Price, No. 24, Brass.....	each	\$.08
" " 24, Bronze.....	"	.10
" " 24, Nickeled Brass.....	"	.08
" " 24 " Bronze.....	"	.10



No. 30 Fahnestock Test Connectors



Made of special copper bronze spring metal. Two large clips riveted together. Both snap over the line. Made for different size wire. Used for test poles or for party line work. Length over all, $1\frac{1}{8}$ inches. Width, $\frac{5}{8}$ inch.

In ordering, state kind and size of wires to be connected.

Price, No. 30, Bronze.....	each	\$.15
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No. 31 Fahnestock Test Connectors

One large and one small clip riveted together. Large clip snaps over the line wire. The small clip does not snap over, and will take up to and including No. 10 B. & S. Used for attaching drop or jumper wires to line on junction poles or party lines. Length over all, $1\frac{1}{8}$ inches. Width, $\frac{5}{8}$ inch.

Price, No. 31, Bronze.....	each	\$.10
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No. 33 Fahnestock Test Connectors



Temporary connector for emergency work and test sets.

Will snap over a No. 8 B. W. G. Wire.

Price, No. 33, Bronze.....	each	\$.15
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THIS END SNAPS OVER THE WIRE

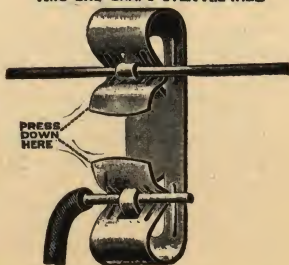
No. 34 Fahnestock Test Connectors

One end snaps over the line. Made in only one size. Snaps over a No. 12 B. W. G. Wire.

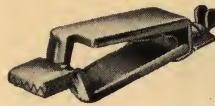
Other end does not snap over wire but will take any size wire up to No. 9 B. W. G.

Length over all, $2\frac{3}{4}$ inches. Width, $\frac{5}{8}$ inch.

Price, No. 34, Bronze.....	each	\$.10
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Universal Test Clips



No. 27



No. 28

A Universal Test Clip saves time in electrical work which requires quick temporary connections.

Each clip can be used over and over again. Suggested for use with test sets, voltmeters, on shop testing devices, by telephone linemen, as a helix clip, by meter departments, by railway signal inspectors, in college and commercial laboratories, on motor and transformer test floors and in radio work.

No. 36 Pee Wee Radio Clips

Price, No. 36, Pee Wee Clip Only, Nickel-plated, Screw Connection; Spread of Jaws, $\frac{1}{2}$ Inch.....	each	\$.05
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Copper Test Clips and Insulators

10 Amperes

Price, No. 27, Clip Only, 10 Amperes; Screw Connection; Spread of Jaws, $\frac{5}{8}$ Inch.....	each	\$.15
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Price, No. 28, Clip with Insulator, 10 Amperes, Screw Connection; Spread of Jaws, $\frac{5}{8}$ Inch.....	each	.23
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Price, No. 29, Insulator Only, for 10-ampere Size "	each	.08
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25 Amperes

Price, No. 24, Clip Only, 25 Amperes; Screw Connection; Spread of Jaws, 1 Inch.....	each	\$.17
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Price, No. 25, Clip with Insulator, 25 amperes, Screw Connection; Spread of Jaws, 1 Inch.....	each	.25
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Price, No. 26, Insulator Only, for 25-ampere Size "	each	.08
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50 Amperes

Price, No. 21, Clip Only, 50 Amperes; Screw Connection, Spread of Jaws, $1\frac{1}{2}$ Inches.....	each	\$.35
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Price, No. 22, Clip with Insulator, 50 amperes; Screw Connection; Spread of Jaws, $1\frac{1}{2}$ Inches.....	each	.58
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Price, No. 23, Insulator Only, for 50-ampere Size "	each	.23
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100 Amperes

Price, No. 11, Clip Only, 100 Amperes; Cleat Connection; Spread of Jaws, 1 Inch.....	each	\$.50
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Price, No. 12, Clip with Insulator, 100 Amperes; Cleat Connection; Spread of Jaws, 1 Inch.....	each	.73
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Price, No. 23, Insulator Only, for 100-ampere Size "	each	.23
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200 Amperes

Price, No. 33, Clip Only, 200 Amperes; Cleat Connection; Spread of Jaws, 2 Inches.....	each	\$1.25
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Price, No. 34, Clip with Insulator, 200 Amperes; Cleat Connection; Spread of Jaws, 2 Inches.....	each	2.00
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Price, No. 35, Insulator Only for 200-ampere Size "	each	.75
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Universal Battery Clips

No. 21A

Made of lead-coated steel. Has shunt to protect spring.

Jaws have a spread of $1\frac{1}{2}$ inches. Capacity, 35 amperes

For use with automobile batteries.

Price, No. 21A.....	each	\$.20
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No. 24A

Made of lead-coated steel. For use with radio and small batteries. Jaw opening of 1 inch. Capacity, 15 amperes.

Price, No. 24A.....	each	\$.15
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No. 11A

Made of lead-coated copper. Spread of jaws, 1 inch. May be used up to 200 or 300 amperes for short tests.

Price, No. 11A.....	each	\$.65
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No. 33A

Made of lead-coated copper. Spread of jaws, 2 inches. Capacity, 200 amperes. May be used up to 400 or 500 amperes for short tests.

Price, No. 33A.....	each	\$1.35
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No. 27

Plain copper—not suitable for storage battery work. Spread of jaws, $\frac{5}{8}$ inch, screw connection. Cap., 10 amp.

Price, No. 27.....	each	\$.15
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Edison Primary Batteries



Complete Edison Renewal

Renewal Parts for Edison Cells

The active materials of all types of Edison (Primary) Cells are so equally proportioned that they all become exhausted at the same time; therefore, when a cell is exhausted, the entire charge, consisting of copper-oxide plate (or plates), zincs, solution and oil should be renewed.

Table of Corresponding Old and New Types

The following table shows obsolete Edison and Gladstone types, corresponding models in improved types and material required to bring old cells up to date.

Edison Type

Old Type Designation	Cap. Amp. Hours	Kind of Jar	Inside Dimens. of Jar Inches	Corresponding Cell New Type	Renewals
BB	100	Porc.	4 1/4 x 7 1/4	None	None
Z	100	Steel	4 1/4 x 6	"	"
Q	150	Porc.	5 x 7	S-208	S-200
V	150	Steel	5 x 7	S-207	S-200
V-P	150	Porc.	5 x 7	S-206	S-200
RR	300	"	6 5/8 x 8 3/4	S-403	S-400
AA	300	Steel	6 1/2 x 8 1/2	None	S-400
AA-P	300	Porc.	6 5/8 x 8 3/4	"	S-400
S	300	"	5 1/8 x 10 1/2	"	S-309
SS	350	"	6 x 10 1/2	S-401	S-400
W	600	"	7 x 13 1/2	None	None

Gladstone Type

Old Type Designation	Cap. Amp. Hours	Kind of Jar	Inside Dimens. of Jar Inches	Corresponding Cell New Type	Renewals
G-10	100	Porc.	4 1/4 x 7 1/4	None	None
G-80	100	Steel	4 1/4 x 6	"	"
G-20	150	Porc.	5 x 7	S-208	S-200
G-30	150	Steel	5 x 7	S-207	S-200
G-36	150	Porc.	5 x 7	S-206	S-200
G-50	300	"	6 5/8 x 8 3/4	S-403	S-400
G-90	300	Steel	6 1/2 x 8 1/2	None	S-400
G-96	300	Porc.	6 5/8 x 8 3/4	"	S-400
G-56	300	"	5 1/8 x 10 1/2	"	S-309
G-60	350	"	6 x 10 1/2	S-401	S-400
G-70	600	"	7 x 13 1/2	None	None

NOTE A.—Type 208 cell is recommended in place of types BB and G-10.

NOTE B.—Type 207 cell is recommended in place of types Z and G-80.

NOTE C.—Types 502 and 1002 cells are recommended in place of types W and G-70.

Parts of Cells of Different Types which are Identical

Renewals are the same for:

- All M-500-ampere-hour types
- " S-500-ampere-hour types
- " S-400-ampere-hour types
- " S-200-ampere-hour types

Heat-resisting glass jars are the same for:

- Types 401 and 501
- " 402 " 502
- " 404 " 504

Porcelain covers are the same for:

- Types 202 and 252
- " 206 " 207
- " 305, 401, 404, 501 and 504
- " 402 and 502

Cans of caustic soda are the same for: Types 202, 206, 207 and 208.

- All 400-ampere-hour types
- " 500

Edison Primary Batteries

Summary of Prices

Types S202, S206, S207, S208 and S252

Complete Batteries and Renewals

	TYPE				
	S202 Glass	S206 Glass	S207 Steel	S208 Glass	S252 Glass
Capacity, Ampere Hours..	200	200	200	200	250
Complete Cell.....	\$4.00	\$4.00	\$4.50	\$3.75	\$4.20
" Renewal.....	1.50	1.50	1.50	1.50	1.70
Renewal Parts					
Zinc-oxide, Assembled....	1.35	1.35	1.35	1.35	1.55
One Can Caustic Soda....	.24	.24	.24	.24	.27
" Bottle Special Battery Oil.....	.09	.09	.09	.09	.09
Permanent Parts					
Heat-resisting Glass Jar, Round.....	1.75			1.75	
Heat-resisting Jar, Rectangular.....	2.00				2.00
Enameled Steel Jar, Round			2.25		
Porcelain Cover.....	.45	.45	.45	.40	.45
Terminal Nuts and Washers per Cell.....	.20	.20	.20	.20	.20
Rubber Gasket.....	.25	.25			

Types S305, S401, S402, S403, and S404

Complete Batteries and Renewals

	TYPE				
	S305 Glass	S401 Glass	S402 Glass	S403 Glass	S404 Glass
Capacity, Ampere Hours..	300	400	400	400	400
Complete Cell.....	\$4.40	\$4.60	\$4.60	\$4.60	\$4.60
" Renewal.....	1.90	2.05	2.05	2.05	2.05
Renewal Parts					
Zinc-oxide, Assembled....	1.75	1.80	1.80	1.80	1.80
One Can Caustic Soda....	.30	.36	.36	.36	.36
" Bottle Special Battery Oil.....	.09	.09	.09	.09	.09
Permanent Parts					
Heat-resisting Glass Jar, Round.....	1.90	2.10		2.00	
Heat-resisting Glass Jar, Rectangular.....			2.20		
Heat-resisting Glass, Barrel Shape.....					2.10
Porcelain Cover.....	.55	.55	.45	.60	.55
Terminal Nuts and Washers per Cell.....	.20	.20	.20	.20	.20

Types S501, S502, S504, S505 and M1002

Complete Batteries and Renewals

	TYPE				
	S501 Glass	S502 Glass	S504 Glass	S505 Glass	M1002 Glass
Capacity, Ampere Hours..	500	500	500	500	1000
Complete Cell.....	\$4.80	\$4.80	\$4.80	\$4.80	\$8.50
" Renewal.....	2.15	2.15	2.15	2.15	4.25
Renewal Parts					
Zinc-oxide, Assembled....	1.90	1.90	1.90	1.90	3.50
One Can Caustic Soda....	.42	.42	.42	.42	.85
" Bottle Special Battery Oil.....	.09	.09	.09	.09	.09
Permanent Parts					
Heat-resisting Glass Jar, Round.....	2.10			2.10	
Heat-resisting Glass Jar, Rectangular.....		2.20			4.80
Heat-resisting Glass Jar, Barrel Shape.....			2.10		
Porcelain Cover.....	.55	.45	.55	.65	.55
Terminal Nuts and Washers, per Cell.....	.20	.20	.20	.20	.20

Miscellaneous Separate Parts

Large wing nuts, each 7 cents. Nuts, other sizes, each, 3 cents. Brass washers, each, 3 cents. Double connectors, each 15 cents.

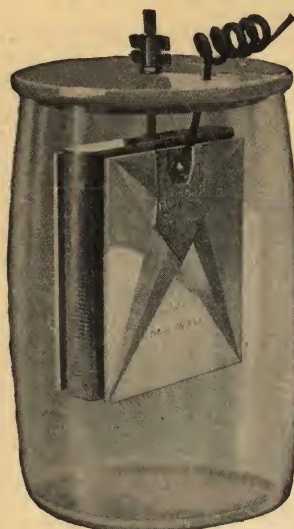
Hexagon jamb nuts, each 3 cents.

NOTE.—The prefix "S" before a cell, renewal or element number means that an element with one copper-oxide plate is furnished. The letter "M" indicates an element with two copper-oxide plates.

The list prices of Types M501, M502, M504, and M505 cells, renewals and elements are 20 cents higher than for corresponding material with "S" type elements. The "M" type element is designed for heavy service.



Columbia High Voltage Caustic Soda Cells



Type 72 H. V.
Primary Signal Cell

The Columbia High Voltage Caustic Soda Signal Cell is being used on nearly every railroad in the United States and Canada and is being rapidly adopted by many railroads abroad.

These cells are used in railroad semaphore signaling, operation of track circuits, telephone train dispatching, and furnishing power for main lines and local sounder circuits in the telegraph field.

The Columbia Soda Cell is a primary cell of the Leland type; that is, a cell made up of copper oxide, zinc and caustic soda. The Columbia cell has one special feature in that it has a higher voltage than any other caustic soda cell of this type. Because of this special feature Columbia High Voltage Soda Cells possess the advantage over other caustic soda cells now

on the market, of performing the same amount of work using a fewer number of cells. Furthermore, where Daniell or gravity cells are used for any purpose, the Columbia High Voltage cell is the only soda cell manufactured that can replace these Daniell or gravity cells, cell for cell since it is the only cell having a sufficient voltage to make this possible, the ordinary soda cells having a voltage considerably less than the Daniell or gravity cell.

In the past it has been the practice to use gravity or Daniell cells for the operation of track circuits, for furnishing current for main lines and local sounder work in the telegraph field, but in recent years these cells have been almost entirely replaced by the use of Columbia High Voltage Soda Cells.

Considering the gravity or Daniell Cell: One of the principal reasons for the replacement of the gravity cell with the high voltage soda cells was the fact that the internal resistances of gravity cells served to prevent high discharges and to limit the normal current flow, also because of the inherent variation of internal resistance in the gravity cell. Track circuits for semaphore signaling especially, cannot be operated efficiently or with a high degree of safety with gravity cells because of the possibility that the battery may be in its least efficient condition at a time when the ballast is wet or the circuit for other reasons may require the greatest amount of current for proper operation. In other words, in order to avoid failure of track circuits fed by gravity cells the lack of constancy of internal resistance and consequent variation of current output must be allowed for in adjusting the circuit. Therefore, there is greater waste of current following the cleaning or renewal of cells because of the excessive current flow at such times.

The gravity or Daniell Cell has a theoretical voltage of one volt and a theoretical internal resistance of one ohm. It is therefore known as a high internal resistance cell. However, this voltage is dependent upon the manner in which the ingredients are installed in the battery and also upon their purity, so that for all practical reasons the gravity cell gives a voltage of about 0.9 volt. The Columbia High Voltage Soda Cell has a very low and practically constant internal resistance which assures the highest efficiency in the operation of circuits that have been operated by the gravity cell inasmuch as the voltage of the Columbia soda cell is about 0.9 volt and its internal resistance is only 0.025 ohm. This fact makes it possible to satisfactorily operate circuits where it has been difficult to operate with gravity or other cells having high and fluctuating internal resistance. It also insures the greatest economy when external resistance is used to limit the current flow.

Columbia High Voltage Caustic Soda Cells

Continued



Type 72 H. V.
300-ampere-hour Capacity
with Rectangular Jar

Other soda cells now on the market have a voltage of only 0.7 volt, while the Columbia high voltage soda cell has a working voltage of 0.9 volt at 0.2 ampere discharge. For this reason an equivalent number of Columbia soda cells can be substituted for gravity or Daniell cells and still give the same voltage. This substitution of an equal number of cells is true only of the Columbia high voltage soda cell, and cannot be performed with other soda cells because of their lower voltage.

For example, in the operation of track circuits it has been the practice to connect two or three gravity cells in multiple. In replacing these with soda cells the same circuit can be operated with two or three high voltage soda cells connected in multiple; while very often, due to adverse ballast conditions or the length of the track circuits, the use of low voltage soda cells would necessitate a series-multiple connection to obtain sufficient voltage. In this case, 100 per cent saving of battery energy would result by the use of Columbia cells. As an illustration, four cells of the 500-ampere-hour type are connected in series multiple, producing 1000 ampere-hours. The same four cells connected in multiple produces 2000 ampere-hours, so that in the above case the slightly increased voltage of Columbia cells makes it possible to use a multiple connection and thus receive 100 per cent more energy from the battery, which is a very important advantage in the efficient and economical operation of track circuits.

The advantages of the soda cell over the gravity or Daniell cell are many and interesting. The Columbia high voltage soda cell is made in 300 and 500-ampere-hour capacities rated at one ampere continuous discharge. While the gravity cells need very frequent attention with regard to renewing of the elements, no attention need be given to soda cells until after the rated capacity has been discharged, the active materials being so designed and proportioned that all become exhausted at the same time. Because of the great uniformity of product and consequent reliability and the considerable decrease in cost of primary battery energy which has been affected by the development of the soda cell, these cells are now used and are adaptable for many purposes which heretofore have been considered beyond the scope of primary batteries.

Columbia cells may be discharged continuously at relatively high discharge rates without appreciable fluctuation of voltage because of the effective means of depolarization and diffusion of electrolyte. The internal resistance of the soda cell is so low that the addition of cells in multiple does not perceptibly affect the current flow, notwithstanding that the internal resistance of the battery is decreased in proportion to the number of cells connected in multiple. Furthermore, the internal resistance of the Columbia soda cell changes only



Columbia High Voltage Caustic Soda Cells

Continued

very slightly as exhaustion progresses, it being practically constant throughout the life of the cell. This is not true of the gravity cell, for its internal resistance increases greatly as the cell grows older. Columbia cells are especially suited for continuous closed circuit work because of their low internal resistance and effective depolarization, the voltage at the normal discharge rate being practically constant throughout the life of the cell.

The basic design of the Columbia cell is a so-called loose element type. Other soda cells have a moulded copper oxide element, while in the Columbia the copper oxide is held in a steel container and is in a granulated form. This granulated copper oxide is put in a perforated container, which design provides for a free circulation of the electrolyte and eliminates the possibility of the copper oxide flaking or sealing and causing internal short circuits. This copper oxide container being assembled with the zinc plates makes a very convenient, compact element and facilitates easy renewal. The Columbia cell is also self-oiling in that after the element has been immersed in the electrolyte for a short time a film of oil will appear on the top of the electrolyte which prevents evaporation and provides against foreign matter dropping into the solution.

Comparing the life of Columbia soda cells and gravity cells for various services on railroad or telegraph work: For track circuits it is a general practice (or rather was a general practice prior to the use of soda cells) to clean or renew the gravity cell every twenty-eight days, whereas Columbia soda cells will perform the same work without any attention after installation for a period of six to nine months.

In the telegraph field Columbia soda cells have also demonstrated their qualities of exceptionally long life. In the operation of main telegraph lines it is a practice to renew gravity cells about four times a year, whereas repeated tests have proven that Columbia cells will perform the same work for a period of twelve to fifteen months. In the operation of local sounder circuits, gravity cells require renewal about twice a year, while Columbia cells will operate these circuits without any attention after installation for a period of two to three years. The above comparisons are based on actual performances of Columbia 500 ampere-hour caustic soda cells.

Maintenance is a factor of great importance and merits careful consideration in the selection of cells. The Columbia soda cell requires practically no attention after installation, since it does not freeze and fewer cleanings are necessary. It can be renewed in less time than any other type of cell by men without special training or knowledge of chemistry. Freedom from freezing is another important point of Columbia superiority. While other cells will freeze or congeal in low temperatures and must be placed in deep wells and the like for protection against cold weather, the construction of the Columbia cell and the materials used eliminate the necessity of this, and Columbia cells may be safely installed above the frost line.

Maintenance men favor it because of its simplicity, ease of inspection and renewal. It is ready to operate as soon as it is set up and it is not necessary to touch any part of the battery that has been in the caustic solution. Signal engineers are relieved of all uneasiness in bad weather and are able to report a minimum number of avoidable failures. These cells are not a laboratory product, but have been tried and proven in many years of actual service on the leading railroads of the United States and Canada.

Columbia High Voltage Caustic Soda Cells

Continued

Some Special Features of the Columbia High Voltage Soda Cell

- Delivers over 25% more watt-hours than other caustic soda cells.
- Lower watt-hour cost.
- Higher safety factor.
- Twenty per cent higher working voltage than other caustic soda cells.
- Less cells required.
- Less frequent renewals.
- Longer life.
- Self-oiling—does not require the shipping or handling of any oils.
- Cell can be made up in a hot solution.
- Constant potential and higher maintained voltage.
- Greater capacity attained in both high and low temperatures.

Columbia High Voltage Soda Cells Will Prove Efficient and Economical for the Following Services

- Electric Railway Signals and Crossing Bells.
- Railway Interlocking Plants.
- Railway Track and Line Circuits.
- Telephone Train Dispatching.
- Telegraph Work—Local Sounder Circuits.
- Gas and Gasoline Engine Ignition.
- Fire, Police and Burglar Alarms.
- Interior Fire Alarm and Sprinkler Systems.
- Mine Signals, Bell Systems and Annunciators.
- Electro Plating.
- Electric Clocks.
- Dental Engines.
- Local Battery—Telephone Exchange Switchboards.
- Intercommunicating Telephone Systems.
- Private Branch Exchange Switchboards.
- Pole Changers and Relays.
- Small Common Battery Telephone Systems.
- Low Voltage Motors.
- Laboratory and School Work.

Columbia A. R. A. High Voltage Caustic Soda Signal Cells

Export Price List

Type 72 H. V. with Barrel-shaped Jar Capacity, 500 Ampere-Hours

Price, Type 72 H. V. Cells, Complete with 6x9 $\frac{3}{4}$ -in. Barrel-shaped Head Resisting Glass Jars.....	each	\$6.68
Price, Renewals for Same, Complete.....	"	3.57
" Jar Only.....	"	2.43
" Porcelain Cover.....	"	.55
" Set of Wing Nuts and Washers.....	per set	.34
" Caustic Soda, Cans.....	each	.70

Type 72 H. V. with Straight Side Round Jar Capacity, 500 Ampere-Hours

Price, Type 72 H. V. Cells, Complete with 6x10 $\frac{1}{2}$ -in. Straight Side, Round, Heat Resisting Glass Jars.....	each	\$7.63
Price, Renewals for Same, Complete.....	"	3.57
" Jar Only.....	"	3.56
" Porcelain Cover.....	"	.55
" Set of Wing Nuts and Washers.....	per set	.34
" Caustic Soda, Cans.....	each	.70

Type 72 H. V. with Rectangular Jar Capacity, 500 Ampere-Hours

Price, Type 72 H. V. Cells, Complete with 5x6x10-in. Rectangular Heat Resisting Glass Jars.....	each	\$7.58
Price, Renewals for Same, Complete.....	"	3.57
" Jar Only.....	"	3.32
" Porcelain Cover.....	"	.67
" Set of Wing Nuts and Washers.....	per set	.34
" Caustic Soda, Cans.....	each	.70

Type 72 H. V. with Rectangular Jar Capacity, 300 Ampere-Hours

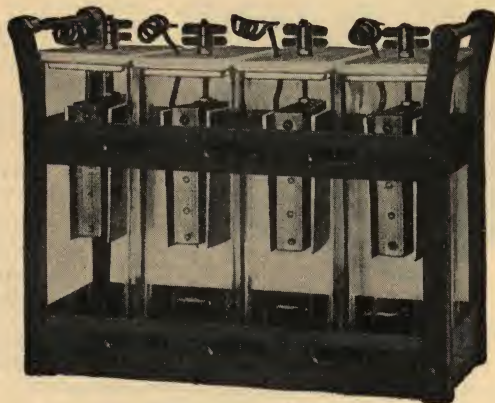
Price, Type 72 H. V. Cells, Complete with 2 $\frac{7}{8}$ x5 $\frac{1}{4}$ x10-in. Rectangular Heat Resisting Glass Jars.....	each	\$5.97
Price, Renewals for Same, Complete.....	"	2.89
" Jar Only.....	"	2.94
" Porcelain Cover.....	"	.57
" Set of Wing Nuts and Washers.....	per set	.34
" Caustic Soda, Cans.....	each	.39



Columbia High Voltage Caustic Soda Cells

Continued

Trays



Steel Tray for 4 Cells

Steel trays for 3, 4 and 5 cells can be furnished where desired for 300 ampere-hour No. 72 H. V. cells only.

Export Price List

Price, 3-cell Steel Tray.....each	\$7.00
" 4 " " "	7.50
" 5 " " "	8.00

Columbia Standard Voltage Caustic Soda Signal Cells

The Columbia Standard Voltage Cell possesses all the characteristics of efficient and economical performance as the high voltage cell except that its voltage is 0.7, which is the same as the voltage of other caustic soda cells on the market. Type 100 Columbia Standard Voltage Cells are supplied in, 500-ampere hour capacity only and with barrel-shaped, round, straight side, or rectangular heat-resisting glass jars.

Export Price List

Type 100 with Barrel-shaped Jar

Capacity, 500 Ampere-Hours

Price, Type 100 Cells Complete with 6x9¾-in. Barrel-shaped Heat Resisting Glass Jars.....each	\$5.97
Price, Renewals for Same, Complete.....	2.78
" Jar Only	2.43
" Porcelain Cover.....	.55
" Set of Wing Nuts and Washers.....per set	.34
" Caustic Soda, Cans.....each	.70

Type 100 with Straight Side Round Jar

Capacity, 500 Ampere-Hours

Price, Type 100 Cells, Complete with 6x10½-in. Straight Side, Round, Heat Resisting Glass Jars.....each	\$6.71
Price, Renewals for Same, Complete.....	2.78
" Jar Only	3.56
" Porcelain Cover.....	.55
" Set of Wing Nuts and Washers.....per set	.34
" Caustic Soda, Cans.....each	.70

Type 100 with Rectangular Jar

Capacity, 500 Ampere-Hours

Price, Type 100, Cells Complete with 5x6x10-in. Rectangular, Heat Resisting Glass Jars.....each	\$6.66
Price, Renewals for Same, Complete.....	2.78
" Jar Only	3.32
" Porcelain Cover.....	.67
" Set of Wing Nuts and Washers.....per set	.34
" Caustic Soda, Cans.....each	.70

Type B Storage Batteries

For Radio Reception and Transmission



A battery that will become a permanent part of the radio set. It is not thrown away when run down, merely recharged at slight expense to full capacity. Three to six months service per charge.

Voltage of battery is constant until the battery needs recharging. If idle the battery will hold its charge for many months. This storage battery will prevent many noises in the set ordinarily blamed to static and will aid long distance reception.

The initial cost is not high; operating cost of the set is less; the quality of reception is better when the B battery is used.

STANDARD UNIT.—Voltage, 24. Charging amp., ¼; ampere hours, 2¼. Specific gravity, 1250. Dimensions, 4¾x13½x6 inches.

SUPER UNIT.—Voltage, 24. Charging amp., ¼; ampere hours, 4½. Specific gravity, 1250. Dimensions, 4¾x13¼x7½ inches.

Prices upon application.

No. 600 Sterling Cell Testers



The Sterling Cell Tester provides an accurate, reliable means of testing the performance of a storage battery under discharge without removing the battery to a

test bench. Locates defective cells, indicates dead or shorted cells and stops the wasting of labor and current in attempting to charge a defective battery. It saves actual loss to the service station by preventing the exchange of worn out batteries for valuable rental batteries.

Length of tester, 11½ inches. Weight, 11 ounces.

Price, No. 600.....each \$10.00

Type A WorkRite Hydrometers

For general use.

The rubber collars at each end of hydrometer protect it from breakage if dropped. The square collar prevents rolling. Slotted washer inside acts as a cushion for float and prevents it from shutting off the outlet.

Float is always in plain view and there is no plug in bottom to drop out, spilling the acid and breaking the float.

Rubber fittings are made of unusually high-grade stock, insuring strong suction and long life.

Graduations on float guaranteed accurate.

Securely packed in mailing tubes with attractive covers.

Used by leading battery manufacturers, car manufacturers and U. S. Government.

Shipping weight, ½ pound.

Price, Type A.....each \$.75





Yale Automobile Storage Batteries



A super-quality battery. Into it has been built all the desirable qualities that storage battery experts have learned during the years of experience.

The battery has positive leak-proof construction. The Yale cover-sealing lock nuts on each cell eliminate acid leakage. When long wear necessitates

examination, or repair of elements, the battery may be taken apart and reassembled with ease, and without injury.

Back of the Yale Battery is a definite guarantee that insures the purchaser full value for his investment.

Each Yale Battery is guaranteed 12 months (except RR rubber case type, which is guaranteed 18 months). If it fails to function properly within three months from date of purchase, it is replaced, free of charge. After three months, should it fail, it will be replaced with a new battery, the user paying $\frac{1}{2}$ (or $\frac{1}{3}$) of the price of the new battery for each month of service received.

In the event of replacement, the factory stands back of the dealer and guarantees him against loss. The following types of batteries can be installed in about 80 per cent of all automobiles.

Prices on required type of all batteries will be furnished upon application.

(Rubber Case Guaranteed 12 Months)	Rubber Case (Guaranteed 18 Months)	Wood Case (Guaranteed 12 Months)
611R-19 11 Plates	611RR-19 11 Plates	611RX-19 11 Plates
613R-19 13 "	613RR-19 13 "	613RX-13 13 "
127R-53 7 "	127RR-53 7 "	127RX-53 7 "

Replacement List—1924

Name	Year	Model	Battery
Buick	1918		611R-19
"	1919-21		613R-19
"	1922-23	6	613R-19
"	1922-23	4	611R-19
"	1924	6	613R-19
"	1924	6-43 & 4 Cyl.	611R-19
Chevrolet		Series 490	611R-12
"		B G	613R-19
"	1920	B G	611R-19
"	1923	Superior	611E-19
Dodge	1918-20	All	127R-53
"	1921-24	"	127R-63 A
			127D-63 A
Essex	1919-21	"	613R-19
"	1922-23	"	611R-19
"	1924*		611E-19 to
			Jan. 24 then
Ford	1919-24	All	611R-19
Hudson	1917-24	"	611R-19
Nash	1917-18	6 81, 6-82	613R-19
"	1918	6-71	611R-19
"	1919-24	40 Series, 4 Cyl.	613R-12
"	1917-24	6-80, 6-90	611R-19
Overland	1917-18	90-90B	613R-19
"	1919-24	85-4, 85-6, 92	611R-12
"	1922-24	92	611R-12
"	1924	91 Champion	611R-12
Reo	1917-20	All	613R-12
"	1921	T-6	611R-19
"	1922-24	T-6, Speed Wagon	613R-19
Studebaker	1919-23		613R-19
"	1921-24	Light Six	611R-19
"	1921-24	Big 6, Spec. 6	613R-19

*Two or more models of the same year require different batteries.

Yale Radio Storage Batteries



In radio service a storage battery is required to heat the filament of the audio-vacuum tube when used either as a detector or amplifier, and to operate the loud speaker. This service requires a battery designed with uniform and steady discharge characteristics. This is provided for by use of relatively thick plates and separators, which insures voltage remaining

constant for long periods without adjustment.

As storage batteries contain sulphuric acid solution, in order to render them fit for use in the home, an improved construction to prevent spilling of acid is essential. This subject has been given attention, and a battery has been produced, as well as a suitable container, to eliminate any inconvenience because of the acid solution contained in the battery.

The battery proper is provided with excess gassing chamber beneath the cover, and with vent caps of suitable design to prevent leakage of acid. The plates are thick, strong and durable. Terminals are efficient and conveniently arranged and a suitable handle is provided so that battery can be carried in one hand. The hardwood case is specially treated to resist acid and is finished in mahogany, and provided with soft rubber cushioned feet. The batteries are provided in a sufficient range of sizes to suit the individual requirements of any radio equipment.

A single tube detector set will consume more than one ampere, depending on potentiometer adjustment. In such an outfit a 6-30 battery will give 25 to 30 hours service on each recharge. Each amplifier tube adds $\frac{1}{4}$ ampere to the current consumed. If amplifier tubes are used, the 6A-30 battery is too small to give satisfactory service, unless a home charging equipment is used. Otherwise, the battery will have to be taken to the service station quite frequently. Higher capacity batteries should be used, as they will not require such frequent recharging.

For varying equipment the following is recommended:

Description	BATTERY RECOMMENDED (When Use with- out Home Charg- ing Device)		(With Home Charger)
	6A-30	or 6A-60	6A-30
Vacuum Tube Detector Only....	6A-30	6A-60	6A-30
Detector and One Amp. Tube....	6A-60	6A-90	6A-60
" " Two " Tubes....	6A-90	6A-120	6A-60
" " Three " "....	6A-120	6A-150	6A-90
" " Four " "....	6A-150	.....	6A-90

If a loud speaker is used, consider that it consumes approximately as much power as an amplified tube.

Capacities and Dimensions of Batteries

Type	Volts	AMPERE HOUR CAPACITY		OVERALL DIMEN.			Wt. Lbs.
		1 Amp.	5 Amp.	Lgth.	Wdth.	Hght.	
6A-30	6	30	20	5 $\frac{5}{8}$	7 $\frac{3}{8}$	9	22
6A-60	6	60	40	7 $\frac{7}{8}$	7 $\frac{3}{8}$	9	32
6A-90	6	90	60	10 $\frac{1}{8}$	7 $\frac{3}{8}$	9	43
6A-120	6	120	80	12 $\frac{3}{8}$	7 $\frac{3}{8}$	9	53
6A-150	6	150	100	14 $\frac{5}{8}$	7 $\frac{3}{8}$	9	63

Length is decreased one-half inch with handle removed.

Directions for Care of Radio Batteries

Radio batteries require but little attention. Do not add acid to the batteries because it does not evaporate. The water does. When solution gets down low enough to expose the separators, add distilled water to cover the separators about $\frac{1}{4}$ inch. Wipe off any acid which escapes from the vent caps with a cloth moistened with 25 per cent ammonia and water. Charge battery as per rate given on name plate.

Specific gravity when fully charged, 1280 degrees.

Prices upon application.



DeVeau Apartment House Intertalk Telephone Systems

Common-talking

System Q—Not Loud-speaking

System QV—Loud-speaking

Vestibule calls and converses with suites. Suites operate door-opener (optional).

System P—Not Loud-speaking

System PV—Loud-speaking

Vestibule, janitor and tradesmen call and converse with suites. Suites call and converse with janitor. Suites can operate door-opener (optional).

Selective-talking—Non-interfering

System T—Not Made Loud-speaking

Vestibule calls and converses with suites. Suites operate door-opener (optional).

System U—Not Made Loud-speaking

Each vestibule and tradesman can call and converse with its respective suites.

Janitor can call and converse with any suite and open vestibule doors. Drops on janitor's station indicate suite or vestibule calling.

Suites can call and converse with janitor. Suites can operate door-opener (optional).

Sectional—Common-talking

System R—Not Loud-speaking

System RV—Loud-speaking

Each vestibule and tradesman can call and converse with its respective suites. Janitor can call and converse with any suite in any section and open vestibule door of any section. Suites can call and converse with janitor. Suites can operate door-opener of their respective section (optional). Drops on janitor's station indicate section calling.

System S—Not Loud-speaking

System SV—Loud-speaking

Each vestibule and tradesman can call and converse with its respective suites. Janitor can call and converse with any suite in any section and open vestibule door of any section. Suites can call and converse with janitor. Suites can operate door-opener of their respective section (optional). Drops on janitor's station indicate suite or vestibule calling.

DeVeau Intertalk Apartment House Telephones

Pattern No. 19

Standard Vestibule Outfits with Receiver and Armored Cord, Complete with Letter Boxes With Calling Buttons in Telephone Face-plate



Standard Vestibule Outfit with Armored Receiver and Cord

This pattern consists of a standard vestibule telephone unit and one or more nest-type letter boxes, with 2, 3 or 4 compartments, depending on the size of the system.

Telephone unit is equipped with embossed metal mouthpiece of semi-flush design mounted on the face-plate by means of a flexible armored tubing which

serves as a protection for the receiver cord.

Calling buttons for the apartments are mounted in the telephone plate and are provided with individual nameplate holders, having separate space for apartment numbers and names of tenants. Numbers as well as names of tenants can be easily removed from holders. Contact springs are of substantial design and terminals are provided with "No-Slip" wire guides, insuring easy yet dependable connections. Janitor's calling button is provided on outfits wired for janitor service.

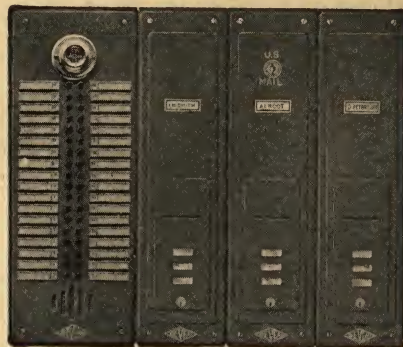
Letter box units are furnished with 2, 3, or 4 letter compartments taking letters larger than the usual size; they have individual card holders and keys.

FINISH.—Standard finish of outfits is brush brass or black-velvet-enamel. Black-velvet-enamel is urged as it will last indefinitely, whereas brush brass rapidly discolors; unless specified, however, standard brush brass will be shipped.

DeVeau Intertalk Apartment House Telephones

Patterns Nos. 80 and 90 Vestibule Outfits

Complete with Approved Letter Boxes



Pattern No. 80

Loud-speaking Cordless Vestibule Outfit with Letter Boxes

DeVeau Letter Boxes will be shipped to the customer completely assembled in gangs of three or more per gang, ready for mounting in the wall opening.

The ruling is that the minimum number of boxes in a gang to be opened by one lock shall be six if more than six receptacles are installed in one vestibule; the probable maximum will not exceed ten receptacles. In installations of over ten receptacles in one vestibule, a suitable division of the total number of receptacles into gangs that will require the lowest number of government locks is expected by the U. S. Post Office Department.



Pattern No. 90

Standard Vestibule Outfit with Receiver and Armored Cord

DeVeau Vestibule Telephones are designed to nest with DeVeau Letter Boxes as illustrated. They are made in two sizes, viz.: single gang plate using space of one letter box 5 inches wide and 2-gang plate using space of two letter boxes 10 inches wide, both plates being 19½ inches high. The single gang 5-inch plate is made with single row of buttons up to total capacity of 18 buttons. The double gang 10-inch plate is made with double row of buttons from 14 up to total capacity of 36 buttons.

When ordering specify the number of letter boxes required in each gang, whether for single or double-row mounting, and which gang the telephone unit is to be installed with.



DeVeau Intertalk Apartment House Telephones

Patterns Nos. 80 and 90 Vestibule Outfits

Complete with Approved Letter Boxes

Prices and dimensions given cover complete outfits including letter boxes and telephone unit both standard and receiver and armored cord type and loud-speaking cordless receiver type.

Single Row Mounting Including Telephone Unit

Suite Cap.	Mail Boxes	MEASUREMENTS		PRICE, EACH	
		Over All Width, In.	Wall Cut Width, In.	Loud Speaking Pat. No. 80	Standard Receiver & Armd. Crd. Pat. No. 90
3	3	20	19 $\frac{1}{4}$	\$79.90	\$67.90
4	4	25	24 $\frac{1}{4}$	94.20	82.20
5	5	30	29 $\frac{1}{4}$	108.50	96.50
6	6	35	34 $\frac{1}{4}$	122.80	110.80
7	7	40	39 $\frac{1}{4}$	137.10	125.10
8	8	45	44 $\frac{1}{4}$	151.40	139.40
9	9	50	49 $\frac{1}{4}$	165.70	153.70
10	10	55	54 $\frac{1}{4}$	180.00	168.00
11	11	60	59 $\frac{1}{4}$	194.00	182.30
12	12	65	64 $\frac{1}{4}$	208.60	196.60
13	13	70	69 $\frac{1}{4}$	222.90	210.90
14	14	75	74 $\frac{1}{4}$	237.20	225.20
15	15	80	79 $\frac{1}{4}$	251.50	239.50
16	16	85	84 $\frac{1}{4}$	265.80	253.80
17	17	90	89 $\frac{1}{4}$	280.10	268.10
18	18	95	94 $\frac{1}{4}$	294.40	282.40
19	19	100	104 $\frac{1}{4}$	308.70	296.70
20	20	110	109 $\frac{1}{4}$	323.00	311.00
21	21	115	114 $\frac{1}{4}$	337.30	325.30
22	22	120	119 $\frac{1}{4}$	351.60	339.60
23	23	125	124 $\frac{1}{4}$	365.90	353.90
24	24	130	129 $\frac{1}{4}$	380.20	368.20

Wall depth required for all sizes listed above, not less than 4 $\frac{5}{8}$ inches.

Height of wall cut for all sizes listed above, 17 $\frac{1}{2}$ inches.

Height overall for all sizes listed, 19 $\frac{1}{2}$ inches.

Prices cover outfits for common-talking and sectional-common-talking systems.

Prices on selective-talking systems on request.

Double Row Mounting Including Telephone Unit

Suite Cap.	GROUPING		MEASUREMENTS		PRICE, EACH	
	Upper Row Mail Boxes	Lower Row Mail Boxes	Over All Width In.	Wall Cut Width In.	Loud- Speaking Pat. No. 80	Standard Receiver & Armd. Crd. Pat. No. 90
13	6	7	35	34 $\frac{1}{4}$	\$222.90	\$210.90
14	6	8	40	39 $\frac{1}{4}$	237.20	225.20
15	7	8	40	39 $\frac{1}{4}$	251.50	239.50
16	7	9	45	44 $\frac{1}{4}$	265.80	253.80
17	8	9	45	44 $\frac{1}{4}$	280.10	268.10
18	8	10	50	49 $\frac{1}{4}$	294.40	282.40
20	9	11	55	54 $\frac{1}{4}$	323.00	311.00
22	10	12	60	59 $\frac{1}{4}$	351.60	339.60
24	11	13	65	64 $\frac{1}{4}$	380.20	368.20
26	12	14	70	69 $\frac{1}{4}$	408.80	396.80
28	13	15	75	74 $\frac{1}{4}$	437.40	425.40
30	14	16	80	79 $\frac{1}{4}$	466.00	454.00
32	15	17	85	84 $\frac{1}{4}$	494.60	482.60
34	16	18	90	89 $\frac{1}{4}$	523.20	511.20
36	17	19	95	94 $\frac{1}{4}$	551.80	539.80

Number of suites is same as number of mail boxes.

Odd numbers above 17 are omitted because the limit of button capacity for the 5-inch telephone plate is 18 and a 10-inch telephone plate must therefore be used for the larger number. As a 10-inch telephone plate equals the width of two mail boxes it will be seen that an odd number of mail boxes and a 10-inch telephone do not divide equally for two rows. Consequently the next larger even number of mail boxes must be purchased: For example, a 22 number outfit should be ordered for a 21 number requirement.

Wall depth required for all sizes listed above not less than 4 $\frac{5}{8}$ inches.

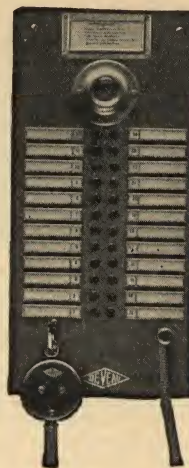
Height of wall cut for all sizes listed above, 37 inches.

Height overall for all sizes listed above, 39 inches.

DeVeau Intertalk Apartment House Telephones

Pattern No. 9

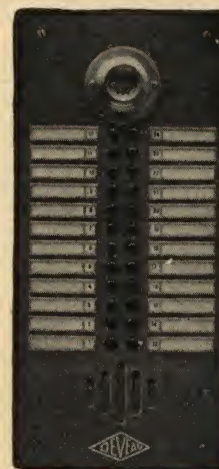
Standard Vestibule Telephones with Receiver
and Armored Cord without Letter Boxes
With Calling Buttons in Telephone Face-plate



Three-gang, Pattern No. 9
Standard Vestibule Telephone with Receiver
and Armored Cord without Letter Boxes

This pattern is identical with pattern No. 9, except that telephone is not loud-speaking. It is equipped with embossed metal mouthpiece of semi-flush design, substantial and efficient transmitter and watchcase receiver. The receiver is fastened to the face-plate by means of a flexible armored tubing which serves as a protection for the receiver cord.

Calling buttons for the apartment are mounted in the telephone plate and are provided with individual nameplate holders having separate space for apartment numbers and names of tenants. Numbers as well as names of tenants can be easily removed from holders. Contact springs are of substantial design, and terminals are provided with No-Slip wire guides, insuring easy yet dependable connections.



Three-gang, Pattern No. 9
Loud-speaking Cordless Vestibule Telephone
without Letter Boxes

If this type is desired, add the code-letter V to the catalogue number of instrument selected. Selective talking systems T and U cannot be wired for loud-speaking operation.

Janitor's calling button is provided on outfits wired for janitor service. These telephones are made in 3 sizes, viz.: 2-gang, 3-gang and 4-gang.

Standard finish of telephones is brush brass or black-velvet-enamel. Black-velvet-enamel is urged, as it will last indefinitely, whereas brush brass rapidly discolors; unless specified, however, standard brush brass will be furnished.



DeVeau Intertalk Apartment House Telephones Suite Telephones



**Pattern No. 2524
Surface Wall Type**

Pattern No. 2534 has all-metal hinged case, embossed metal mouth-piece finished in black-velvet-enamel with nickel trimmings. Pattern No. 2530 has all-metal face-plate with embossed metal mouth-piece finished in black-velvet-enamel with nickel trimmings. Equipped with double-pole unbreakable watch-case receiver. Dimensions of wood outlet box for wall opening, $7\frac{3}{8} \times 4\frac{3}{4} \times 3$ inches. Overall dimensions of telephone face-plate, $8 \times 5\frac{3}{8}$ inches.



**Pattern No. 2530 Flush
Wall Type**



**Pattern No. 1172
Surface Wall Type**

Pattern No. 1172 has all-metal hinged case, equipped with long double-pole unbreakable receiver and solid-back transmitter. Finished in black-velvet-enamel with nickel trimmings.

These telephones are regularly furnished with one button. If more than one button is required it must be so specified at time of ordering. Above telephones cannot be furnished with more than three buttons. For each additional button over one, add \$1.30. For telephones to work with this apparatus, see other pages and select catalogue number with same code-letter. Code-letter after each catalogue number designates system of wiring. Wiring diagram and full information included with each shipment.

Common-talking Systems

For Operation with Standard Vestibule Sets with Receiver and Armored Cord

Wiring System	No.	Price Each	No.	Price Each	No.	Price Each
Q	2524-Q	\$13.70	2530-Q	\$13.70	1172-Q	\$19.00
P	2524-P	13.70	2530-P	13.70	1172-P	19.00

Common-talking Systems

For Operation with Loud-speaking Cordless Receiver

QV	2524-QV	\$13.70	2530-QV	\$13.70	1172-QV	\$19.00
PV	2524-PV	13.70	2530-PV	13.70	1172-PV	19.00

Sectional-common-talking Systems

For Operation with Standard Vestibule Sets with Receiver and Armored Cord

R	2524-R	\$13.70	2530-R	\$13.70	1172-R	\$19.00
S	2524-S	13.70	2530-S	13.70	1172-S	19.00

Sectional-common-talking Systems

For Operation with Vestibule Sets with Loud-speaking Cordless Receiver

RV	2524-RV	\$13.70	2530-RV	\$13.70	1172-RV	\$19.00
SV	2524-SV	13.70	2530-SV	13.70	1172-SV	19.00

Selective-talking Non-interfering Systems

For Operation with Standard Vestibule Sets with Receiver and Armored Cord

T	2524-T	\$13.70	2524-T	\$13.70	1172-T	\$19.00
U	2524-U	13.70	2524-U	13.70	1172-U	19.00

DeVeau Janitor's Telephones

Pattern No. 2818

If desired to work with loud-speaking vestibule set, add code-letter V to catalogue number selected.

No.	Buttons	Wiring System	Price Each	Add'l Button Price Each
2818-P	4	P	\$19.00	\$1.00



DeVeau Janitor's Telephones

Pattern No. 2813

If desired to work with a loud-speaking vestibule set, add code-letter V to catalogue number selected.

No.	Buttons	Wiring System	Price Each	Add'l Button Price Each
2813-P	4	P	\$20.00	\$1.00



DeVeau Tradesmen's Telephones

Pattern No. 2918

If desired to work with a loud-speaking vestibule set, add code-letter V to catalogue number selected.

No.	Buttons	Wiring System	Price Each	Add'l Button Price Each
2918-P	4	P	\$18.00	\$1.00



DeVeau Tradesmen's Telephones

Pattern No. 2913

If desired to work with a loud-speaking vestibule set, add code-letter V to catalogue number selected.

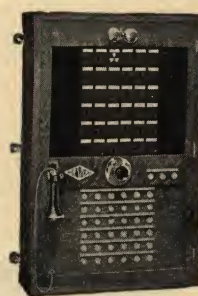
No.	Buttons	Wiring System	Price Each	Add'l Button Price Each
2913-P	4	P	\$19.00	\$1.00



DeVeau Intertalk Apartment House Telephones

Pattern No. 1600

Common-talking Systems P and PV
Janitor's Answering and Calling Telephone Annunciators



This telephone annunciator is generally used where it is desired to have janitor know origin of call.

Golden oak cabinet complete with operator's telephone, necessary drops of suites and vestibule doors, calling buttons for suites, door-opener buttons for operating vestibule doors, and reset button for restoring drops to normal position.

For operation with standard vestibule sets with receiver and armored cord. If desired to work with loudspeaking vestibule set add code-letter V to catalogue number selected.

No.	Drops	Wiring System	Price Each	No.	Drops	Wiring System	Price Each
1616-P	16	P	\$144.00	1636	36	P	\$220.00
1620-P	20	P	162.00	1642	42	P	241.00
1625-P	25	P	180.00	1649	49	P	266.00
1630-P	30	P	198.00	....	....	....	....

Pattern No. 2728 Janitor's Answering Set

All-metal hinged case, embossed metal mouthpiece finished in black-velvet-enamel with nickel trimmings. Equipped with button to operate vestibule door, and double-pole unbreakable watch-case receiver. Can only be used for answering purposes.

No.	Buttons	Wiring System	Price Each
2728-P	1	P	\$13.70



If desired to work with loud-speaking vestibule set, add code-letter V to catalogue number selected.

DeVeau Intertalk Apartment House Telephones

Pattern No. 2700

Sectional-common-talking Systems R and RV
Janitor's Answering Telephone Annunciators

Golden oak cabinet with nickel trimmings, has operator's telephone and signals for two or more sections. Each section consists of a drop for indicating section calling, a jack and vestibule door opener button. One cord and plug is furnished for answering. Can answer suites and vestibule but cannot call them. If desired to work with loud-speaking vestibule set, add code-letter V to catalogue number selected.



No.	No. of Sections	Wiring System	Price Each	Add'l Section Price Each
2702-R	2	R	\$50.50	....
2703-R	3	R	58.00	....
2704-R	4	R	65.50	\$7.60



DeVeau Intertalk Apartment House Telephones

Pattern No. 2800

With Drop for Each Section

For Operation on Sectional-Common-Talking Systems R. & R. V.
Janitor's Answering and Calling Telephone Annunciators

Golden oak cabinet with operator's telephone, necessary drops, calling buttons, jacks, answering plug and cord and reset button and one door-opener button for each section.



A standard section includes equipment for six suites and is made up of the following—six calling buttons for calling their respective suites, a drop and jack for each section, a reset button and necessary door-opener buttons.

Furnished with one cord and plug. For operation with standard vestibule sets with receiver and armored cord.

No.	No. of Sections	Total Drops	Total Buttons	Price Each
2802-R	2	2	14	\$84.00
2803-R	3	3	21	108.00
2804-R	4	4	28	130.00
2805-R	5	5	35	153.00
2806-R	6	6	42	176.00

Price, Add'l Section for 6 Suites and 1 Vest. . . . each \$24.00

" Calling Button for Any Section " 1.40

If desired to work with loud-speaking vestibule sets, add code-letter V to catalogue number selected.

DeVeau Intertalk Apartment House Telephones

Pattern No. 2200

With Drop for Each Section

Sectional-Common-Talking Systems

Janitor's Answering and Calling
Telephone Annunciators

Golden oak cabinet, with operator's telephone, necessary drops, calling buttons, door-opener buttons, one jack for each section and one plug and cord. A standard section includes the necessary equipment for six suites and one vestibule. Sections, however, can be equipped for any number of suites.

If desired to work with loud-speaking vestibule set, add code-letter V to catalogue number selected.

No.	No. of Sections	Total Drops	Total Buttons	Price Each
2202-S	2	14	14	\$145.00
2203-S	3	21	21	170.00
2204-S	4	28	28	198.00
2205-S	5	35	35	220.00
2206-S	6	42	42	244.00

Price, Add'l Section for 6 Suites and 1 Vest. . . . each \$30.00

" " Suite Button and Drop for Any Sect. " 5.00



DeVeau Tradesmen's Calling Sets

Pattern No. 2824

For working with loud-speaking vestibule sets, add letter V.

No.	No. of Buttons	Wiring System	Price Each	Add'l Button Price Each
2824-R	4	R	\$18.00	\$1.00
2824-S	4	S	18.00	1.00

DeVeau Tradesmen's Calling Sets

Pattern No. 2825

For working with loud-speaking vestibule sets, add letter V.

No.	No. of Buttons	Wiring System	Price Each	Add'l Button Price Each
2825-R	4	R	\$19.00	\$1.00
2825-S	4	S	19.00	1.00



DeVeau Intertalk Apartment House Telephones

Pattern No. 1700

Selective Talking—Non-interfering System U
Janitor's Answering and Calling Telephone Annunciators



Loud-speaking apparatus not made for selective-talking system U. Golden oak cabinet with operator's telephone, necessary drops for suites and vestibules, reset and calling buttons, door-opener button for each vestibule door, necessary jacks and one plug and cord.

Calls to suites are made by janitor plugging into jack of desired suite and pressing calling button.

Calls to janitor are answered by janitor plugging into jack corresponding with drop indicating at time of call.

For operation with standard vestibule sets with receiver and armored cord.

No.	Line Signals	Price Each	No.	Line Signals	Price Each
1716-U	16	\$144.00	1736-U	36	\$220.00
1720-U	20	162.00	1742-U	42	241.00
1725-U	25	180.00	1749-U	49	266.00
1730-U	30	198.00	.....	..	.....

Prices on larger capacities upon application.

DeVeau Tradesmen's Calling Sets

Pattern No. 1400

All-metal hinged case finished in black-velvet-enamel with nickel trimmings. Equipped with long double-pole unbreakable receiver and automatic buttons. Can call any suite, but cannot be called by suites. For operation with standard vestibule sets with receiver and armored cord.

Above 20 buttons, case is semi-metal. Wired, system U.



No.	No. of Buttons	Price Each	No.	No. of Buttons	Price Each
1408-U	8	\$36.00	1424-U	24	\$68.00
1410-U	10	40.00	1428-U	28	76.00
1412-U	12	44.00	1432-U	32	84.00
1416-U	16	52.00	1436-U	36	92.00
1420-U	20	60.00	.....	..	.....

Prices on larger button capacities upon application.

DeVeau Intertalk Telephones

Sub-stations for Master-station Telephones

Pattern No. 1172

Surface-metal wall set finished in black-velvet-enamel with nickel trimmings. Case has hinged cover and telephone is equipped with solid-back transmitter and long double-pole unbreakable receiver.

Price, No. 1172-K each \$19.00

Pattern No. 2524

Surface-metal wall set finished in black-velvet-enamel with nickel trimmings. Case has hinged cover, embossed metal mouthpiece and watch-case receiver.

Price, No. 2524-K each \$13.70

Pattern No. 2530

Flush-metal wall set finished in black-velvet-enamel with nickel trimmings—embossed metal mouthpiece and watch-case receiver. Dimensions of face-plate, 8x5 $\frac{3}{8}$ inches. Dimensions of wall opening for outlet, 7 $\frac{3}{8}$ x4 $\frac{1}{4}$ x3 inches.

Price, No. 2530-K each \$13.70

Pattern No. 287

Desk set finished in black-velvet-enamel with nickel trimmings connected to golden oak terminal box by 5 feet of brown cable. Buzzer mounted on terminal box.

Price, No. 287-K each \$27.00

Telephones are furnished with one button. For master-stations to work with above sub-stations see page listing system K.

**Deveau Intertalk Telephones****Pattern No. 2524**

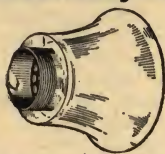
Surface metal wall set finish in Black-Velvet-Enamel with nickel trimmings. Case with hinged cover.

Cat. No.	System	Price Each
2524-A	A-Private Line	\$13.70
2524-C	C-Code-Ringing	13.70

**Deveau Intertalk Telephones****Pattern No. 287**

Desk Set finished in Black-Velvet-Enamel with nickel trimmings connected to golden oak terminal box.

Cat. No.	System	Price Each
287-A	A-Private Line	\$27.00
287-C	C-Code Ringing	27.00

**American Electric Sanitary Glass Mouthpieces**

Burns Glass Mouthpiece is made of clear crystal glass, with threaded metal section for screwing into transmitter front. Fits different makes of telephones

- No. 2—Bell or Western Electric
- No. 4—Kellogg, Garford and Swedish American
- No. 5—Ericsson, Century and Federal
- No. 6—American Electric, Leich, Monarch and Stromberg-Carlson

No. 8—Automatic	
No. 9—Chicago Telephone Mfg. Co.	
Price, Complete.....	each \$.40
" Extra Glass Only.....	" .25

Testing Magnetos**Type A**

Consists of a polarized ringer and hand generator wired in series for testing electrical circuits.

This equipment is mounted in a substantial quartered oak case handsomely finished.

The case is built with locked corners. The top and bottom are fastened to the case with brass screws. Equipped with metal corners. The top has a liberal size opening so the sound of the bells can be heard distinctly, and is protected by a fine mesh bronze screen.

The case is equipped with two binding posts for attaching the wires, and a heavy leather carrying strap.

The polarized ringer is equipped with two 2-inch bells, the electro-magnets are wound with enamel covered magnet wire, the metal parts being electro-galvanized to protect them from corrosion.

The generator consists of a 3-bar A.C. hand generator.

The armature is wound with silk covered magnet wire and treated to withstand moisture.

The permanent magnets are made of high grade magnet steel, enameled red, thoroughly magnetized and aged before assembling.

The bearings and gears are of cast bronze metal and machined to size.

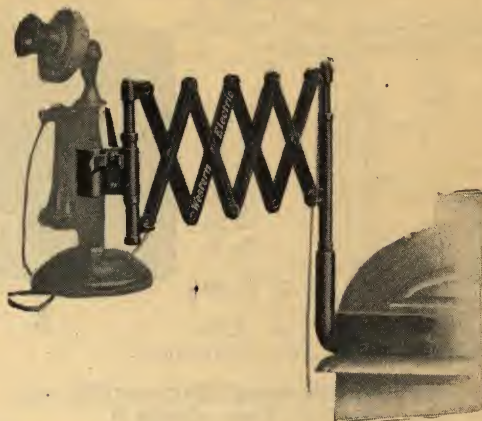
Built to ring through an external resistance ranging from 10 to 150 thousand ohms.

Prices upon application.

Type B

Type B is the same as Type A except for the case. Corners are beveled instead of metal capped. !

Prices upon application.

**Type A****Western Electric Telephone Brackets S Type**

Equipped with No. 1 Mounting and No. 20 Clamp

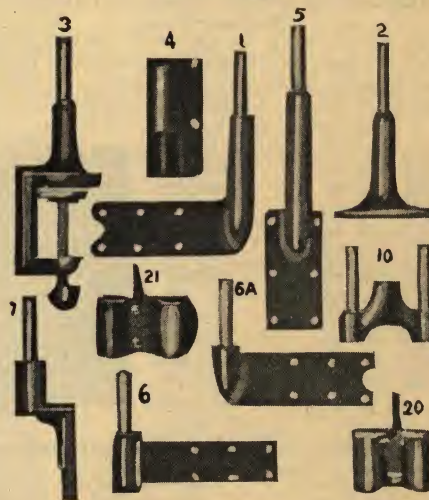
Brackets

This bracket is of the "folding gate" type, and is arranged so as to revolve on its base. Furnished in 24 and 36-inch lengths. The desk stand swivels on the front rod. The bracket will be furnished with any of the mountings described below and with either of the clamps listed.

When ordering specify the letter of the clamp and mounting that is wanted in addition to the code number of the telephone bracket.

Complete equipment consists of bracket, one mounting, one receiver hook, one telephone clamp, one set of eyelets for holding cord, but does not include desk stand.

Code No.	Length of Bracket Extended, Inches	Approximate Shpg. Wt., Lbs.
S-8	24	5
S-14	36	6½

Mountings

Code No.	Use
1	For use on side of flat or roll top desk.
2	" " " top of flat top desk.
3	*Clamps on edge of flat top desk.
4	For use on wall or partition.
5	* " " " side of flat top desk.
6	* " " " " roll top desk.
6A	* " " " " flat or roll top desk.
7	* " " " " " top desk.
10	*Attachment fits any mounting and holds two brackets.

Clamps

Code No.	Use
20	{ Fits Telephones with a Cylindrical Stem Such as the No. 1020 Type.
21	Fits Telephones with Convex Shaped Stems.
	*Not stocked. Furnished on order only.



DeVeau Gravity Annunciators

Surface Type—Grade B
6—10 Volts D. C., 18—24 Volts A. C.
Schedule E

No. 373 is black velvet enameled and No. 374 is white enameled.

No. of Drops	Std. Pkg.	No. 373	No. 374
2	6	\$9.95	\$13.15
3	6	11.60	14.95
4	10	13.20	16.55
6	10	16.55	19.60
8	8	19.60	22.95
10	5	22.95	26.25
12	5	26.15	29.45

For (13) to (55) Drops

Add to (12) Drop \$2.20 \$3.00.

For (56) Drops and Over

Add to (12) Drop 2.85 6.40

Standard package for sizes above 12-drop is 1.



Model F2022
Pull-lever
Code-ringing Fire
Alarm Box

Faraday Fire Alarm Systems

Faraday Fire Alarm Systems are particularly designed and suitable for factories, schools, colleges, public institutions, hotels, theaters, office buildings, department stores, warehouses, apartment houses, etc.; in fact, for every class of building where life and property should be protected from the fire hazard, but with full consideration than an interior fire alarm system must be simple and economical, both as to initial cost and maintenance.

Faraday Fire Alarm Systems are designed to operate from three sources of electrical energy, viz.:

(1) D.C. electric light and power circuits.

(2) A.C. electric light and power circuits.

(3) Battery (both primary and storage) circuits.

Faraday Fire Alarm Systems represent the latest developments in the fire alarm field. Particular attention is called to the entirely original cabinet-unit mounting feature of all control apparatus and instruments. Cabinets are absolutely fireproof. They are of heavy pressed steel, finished in glossy vermilion. All instruments and control mechanisms are back connected, mounted on slate panels.

Cabinets are furnished with glass windows through which all instrument dials are easily read without opening doors. Terminals on slate panels are latest type Underwriters' pattern, with each terminal so plainly marked that the connecting of circuit wires to mains, boxes, gongs and trouble bells can be readily made by any good mechanic.

Faraday Fire Alarm Systems may perhaps be classified in two general types, viz.:

(a) Electrically supervised closed circuit code ringing.

(b) Non-supervised open circuit non-code ringing.

Electrically supervised closed circuit code ringing systems are operated by a continuous flow of electric current, by either pull lever or break-glass boxes, indicating by powerful single-stroke signals on gongs, location of box from which signal originates. Main circuits, box circuits and gong circuits are constantly under electrical test. Trouble of any nature on any part of this system or failure of operative current automatically indicating itself by ringing of trouble bell.

Electrically supervised closed circuit systems may be sub-divided into two classes, viz.:

(a) Non-clockwork single-stroke gong systems.

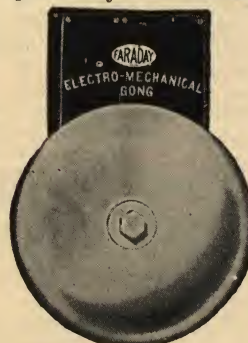
(b) Electro-mechanical (clock-work) gong systems.

Non-supervised open circuit non-code ringing systems are operated by the current when the simple break-glass type box is put in service. The great disadvantage of this open-circuit non-supervised system is that some accident may, of course, at any time open the circuit and when this happens an attempt to send in a fire signal completely fails. Furthermore, with the open circuit system, location of box from which signal originates cannot be indicated, as the bells simply ring continuously till the glass in the box is replaced.

Send for special bulletin on Faraday Fire Alarm Systems.



Model 2120
Single-stroke
Half-guarded Gong



Model 2620
Electro-mechanical Gong



Model 2040
Break-glass Non-code-ringing Fire Alarm Box with Outlet Box Back for Conduit

DeVeau Gravity Annunciators

Surface Type—Grade A
6—10 Volts D. C., 18—24 Volts A. C.
Schedule T

No. 25-G is wood, golden oak or mahogany. Unless otherwise specified golden oak will be shipped.

No. 25-GM is metal. Finish is black enamel.

No. of Drops	No. 25-G	No. 25-GM
4	\$23.35	\$33.35
6	27.60	37.60
8	32.50	42.50
10	39.70	49.70
12	46.95	56.95
14	53.80	63.80
16	60.60	70.60
18	68.00	78.00
20	75.20	85.20
24	90.05	100.05

Additional Drops per Set 2 \$8.25 9.25

DeVeau Electrical Reset Annunciators

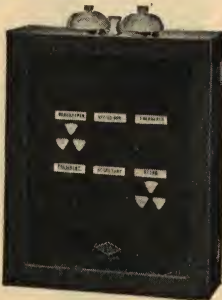
Surface Type
8—12 Volts D. C., 18—24 Volts A. C.—Schedule T

No. 25-R is wood, golden oak or mahogany. Unless otherwise specified, golden oak will be furnished.

No. 25-RM is metal. Finish is black enamel.

No. of Drops	No. 25-R	No. 25-RM
4	\$26.00	\$36.00
6	30.60	40.60
8	36.30	46.30
10	43.80	53.80
12	52.15	62.15
14	59.80	69.80
16	67.65	77.65
18	75.50	85.50
20	83.55	93.55
22	91.65	101.65
24	100.00	110.00

Ad. Drops per Set 2 10.30 10.30



DeVeau Elevator Annunciators

Surface Elevator Elec. Reset
Surface Elevator Gravity Reset

No. of Drops	Wood Cat. No. 11-R	Metal Cat. No. 11-RM	Wood Cat. No. 11-G	Metal Cat. No. 11-GM
3	\$29.40	\$39.40	\$13.95	\$16.70
4	32.50	42.50	15.75	18.95
5	35.30	45.30	17.15	20.10
6	38.25	48.25	18.70	22.45
7	41.65	51.65	20.25	24.30
8	45.35	55.35	21.90	26.30
10	54.80	64.80	24.90	29.90
12	65.20	75.20	28.10	33.80
14	74.75	84.75	36.35	44.35
16	84.60	94.60	44.70	54.90
18	94.40	104.40	52.95	65.60
20	104.40	114.40	61.20	76.15

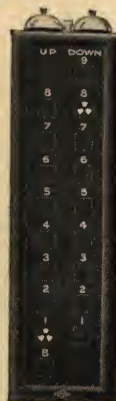
Add-per set

of 2 \$12.90

12.90

8.25

10.55





Faraday Fire Alarm Systems

No. 1, Non-Supervised, Open Circuit

Non-selective, Non-code-ringing, Open Circuit Type, for Battery Circuits Using Vibrating Gongs



Gong



Box

Faraday No. 1 Fire Alarm System is a simple open-circuit, non-selective, non-code ringing, non-supervised system, does not indicate the location of the box from which the signal originates and does not automatically indicate failure of operative current or derangement of circuits or apparatus.

Breaking the glass of any box automatically rings all gongs. Gongs are vibrating type and after glass is once broken, will continue ringing until glass is replaced in box.

Gongs

Enclosed type vibrating gong, wound to special resistance as follows: Up to and including 4 gongs, resistance per gong, 10 ohms. Up to and including 9 gongs, resistance per gong, 20 ohms. 10 gongs and over, resistance per gong, 40 ohms.

Cat. No.	Diameter Inches	Price Each
2500	8	\$37.35
2500	10	49.30
2500	12	65.25

Boxes

Break-glass fire alarm box for 1/2-inch conduit.

Cat. No.	Description	Price Each
2040	Surface	\$15.50
2042	Semi-flush	15.50
2024	"	8.40

Battery Sets

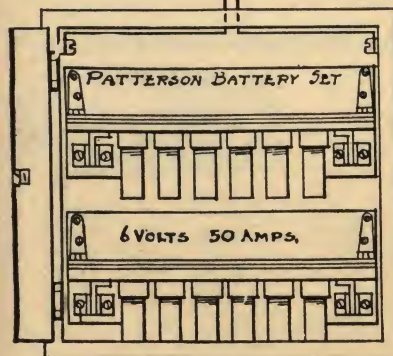
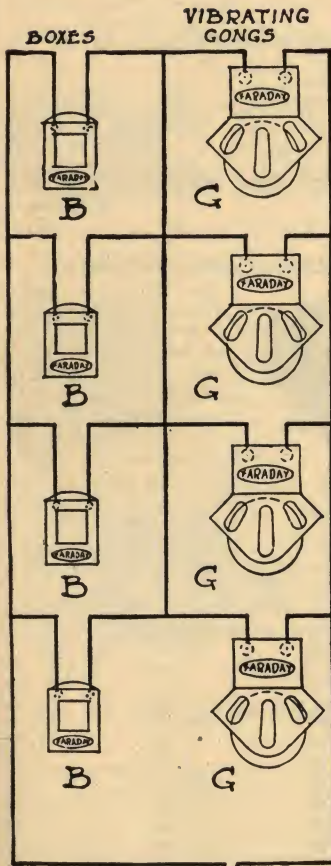
Battery sets, surface steel, with cells.

Cat. No.	N. of Gongs	Price Each
FA-62	4 or less	\$82.65
FA-102	5 to 9	129.00
FA-122	10 and over	

Columbia Ignitor Screw-Top Cells 153.75

For use with Patterson Battery Sets.

Priceeach \$.80



No. 511 Cast Bronze Push Buttons

Caps screw on.

Nickel silver contact. Standard package, 200, cartons of 10.

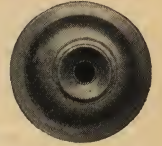


Cat. No.	Diam. Inches	Finish	Price Each
511	1 7/16	Antique Copper	\$.70
511	1 7/16	Brush Brass	.70

No. 512 Cast Bronze Push Buttons

Caps screw on.

Nickel silver contact. Standard package, 100, cartons of 25.



Cat. No.	Diam. Inches	Finish	Price Each
512	2 3/8	Brush Brass	\$1.20

No. 570 Cast Bronze Push Buttons

Nickel silver contact. Screw caps.

Standard package, 100, cartons of 25.



Cat. No.	Diam. Inches	Finish	Price Each
570	2 1/8	Polished Bronze	\$.80

No. 540 Cast Bronze Push Buttons

Loose back. Nickel silver contact.

Standard package, 100, cartons of 25.

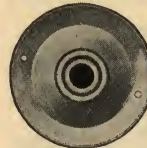


Cat. No.	Diam. Inches	Finish	Price Each
540	2 1/4	Polished Bronze	\$.60

Nos. 514-515 Wrought Bronze Push Buttons

Loose back. Nickel silver contact.

Standard package on No. 514 is 200 and on No. 515 is 100. Cartons of 50.



Cat. No.	Diam. Inches	Finish	Price Each
514	1 1/2	Brush Brass	\$.30
515	2 1/4	" "	.40

No. 529 Wrought Bronze Push Buttons

Has loose back. Contact is nickel silver.

Furnished in standard packages of 150, in cartons of 25.

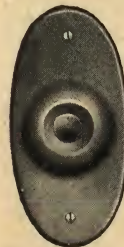


Cat. No.	Height Inches	Diam. Inches	Finish	Price Each
529	4	2	Brush Brass	\$1.00

No. 530 Wrought Bronze Push Buttons

Has loose back. Contact is nickel silver.

Furnished in standard packages of 150, cartons of 25.

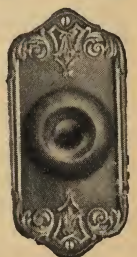


Cat. No.	Height Inches	Diam. Inches	Finish	Price Each
530	4	2	Brush Brass	\$1.00

No. 531 Wrought Bronze Push Buttons

Loose back. Nickel silver contact.

Furnished in standard package of 150, cartons of 25.



Cat. No.	Height Inches	Diam. Inches	Finish	Price Each
531	4 1/4	2	Brush Brass	\$1.00



No. 532 Wrought Bronze Push Buttons

Loose back. Nickel silver contact.
Standard package, 150, cartons of 25.

Cat. No.	Height Inches	Diam. Inches	Finish	Price Each
532	4	2	Brush Brass	\$1.00

No. 534 Wrought Bronze Push Buttons

Loose back. Nickel silver contact.
Standard package, 150, cartons of 25.

Cat. No.	Height Inches	Diam. Inches	Finish	Price Each
534	4	2	Brush Brass	\$1.00



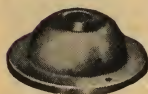
No. 536 Wrought Bronze Push Buttons

Loose back. Nickel silver contact.
Standard package, 150, cartons of 25.

Cat. No.	Height Inches	Diam. Inches	Finish	Price Each
536	4	2	Brush Brass	\$1.20



No. 603 Edwards Bronx Push Buttons



The No. 603 is 1 3/4 inches in diameter with a black composition center. The mechanism is insulated and is recessed to allow the use of No. 14 wire. Standard finish, satin brass. Standard package, 100.

Price, No. 603, Bronx.....each \$1.18

No. 600 Edwards Bronx Push Buttons

The No. 600 is 2 1/4 inches in diameter with a black composition center. The mechanism is insulated and is recessed to allow the use of No. 14 wire. Standard finish, satin brass. Standard package, 100.

Price, No. 600 Bronx.....each \$1.18



No. 604 Edwards Bronx Plate Type Push Buttons



The dimensions of the No. 604 push are small enough to allow its use in many places where the common plate type of push is too large to be adaptable. It is 3 3/8 inches long and 1 1/4 inches wide.

The mechanism is entirely insulated and is recessed to allow the use of No. 14 wire and still leave plenty of room between the screws and the wall, there being no chance of grounding. The wire is fastened directly to the same screw that holds one side of the contact spring; pushing the button makes a contact on one screw only, thereby assuring a positive contact. Standard finish, satin brass. Standard package, 50.

Price, No. 604, Bronx.....each \$3.30

Standard Wood Push Buttons

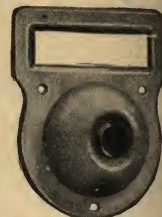
Polished finish, German silver springs. Diameter, 2 1/8 inches.

Price, No. 1396, Walnut	each	\$1.10
" " 1397, Oak	....	" .10
" " 1398, Ash	....	" .10
" " 1399, Cherry	....	" .10
" " 1401, Antique Oak	....	" .10
" " 1402, Mahogany	....	" .10



Edwards Bronx Card Holder Push Buttons

The card racks are arranged so that a slot for inserting the card is at each end of the rack, and in this way there is no slot visible when the card is in place. It also allows the push to be mounted any way desired without the card falling out.



The mechanism is entirely insulated and is recessed sufficiently to allow the use of No. 14 wire and still leave plenty of room between the screws and the wall, there being no chance of grounding. The wire is fastened directly to the same screw that holds one side of the contact spring; pushing the button makes a contact on one screw only, thereby assuring a positive contact. The fiber is recessed so the wire cannot slip out of place.

No. 2—Single Card Holder

Cat. No.	Length Inches	Width Inches	Std. Pkg.	Price Each
601	2 3/8	2	50	\$3.35

No. 3—Double Card Holder

Cat. No.	Length Inches	Width Inches	Std. Pkg.	Price Each
602	4 1/2	2	20	\$1.00

Edwards Directory Push Buttons



No. 190 has phosphor bronzescraping contacts. Insulated. Weighted, and felt covered base. Finish oak and nickel or mahogany and brass, black buttons. No. 191 is the same as No. 190 without wood mat, for mounting flush in desk or wall. No. 192 is the same as No. 190 except

buttons are on an inclined plane.

Standard number of markings furnished unless otherwise specified. Pearl buttons add to list per button, \$.40.

Assortment of all sizes and styles, totaling 50 buttons, to make one standard package. For larger sizes, add per button, \$2.00.

No. of Buttons	Std. Pkg.	Nos. 190 and 191 Price Each	No. 192 Price Each	6-foot Silk Cord Attached
1	5	\$3.90	\$4.90	\$1.16
2	5	5.30	7.00	1.72
3	5	6.60	8.50	2.30
4	5	8.10	10.60	2.88
5	5	9.40	12.40	3.45
6	5	10.80	13.80	4.02
8	5	13.70	17.50	5.20
10	5	16.40	21.30	6.32
12	5	20.25	25.00	7.50

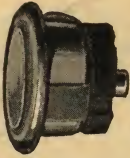
No. 173 Edwards Multiple Push Buttons

Equipped with No. 63 button. Oak furnished when specified.



No. of Buttons	Std. Pkg.	Price Each	Price, Each with Silk Cord Attachment*
2	12	\$4.45	\$1.72
3	6	5.80	2.30
4	3	7.20	2.88
5	1	9.25	3.45
6	1	11.55	4.02
7	1	14.00	4.60
8	1	16.35	5.20

*Six feet of silk covered cable.

**No. 1162 Midget No-contact Edwards Push Buttons**

Fully insulated, frame not grounded. Non-turnable pearl center. Has no springs or contacts. Used to operate simple brass straps, etc. For $\frac{5}{8}$ -inch hole. Standard finish, nickel. Standard package, 50.

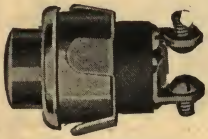
Price, No. 1162.....each \$.34

No. 620 Dixie Jr. Edwards Push Buttons

Fully insulated, frame not grounded and at no time carries current. Phosphor bronzed scraping contacts. Self-forming binding posts, take any size wire and facilitate connecting. Non-turnable pearl center. Standard finish, nickel. For $\frac{5}{8}$ -inch hole. Standard package, 50.



Price, No. 620.....each \$.39

No. 621 Dixie Jr. Edwards Push Buttons

Turned from brass rod, a high grade push of heavy construction. The center is condensite and protrudes $\frac{3}{8}$ inch.

For $\frac{5}{8}$ -inch hole. Standard finish, nickel. Standard package, 1.

Price, No. 621.....each \$ 1.40

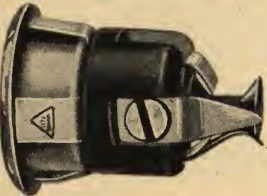
No. 59 Midget Edwards Push Buttons

Frame is not insulated. Non-turnable pearl center. Self-forming binding posts take any size wire.

Standard finish, nickel. For $\frac{5}{8}$ -inch hole.

Standard package, 50.

Price, No. 59.....each \$.77

No. 265 Return Call Edwards Push Buttons

The frame is not grounded. A return signal to signify that call has been heard may be installed, using three wires instead of the usual four. For $\frac{3}{4}$ -inch hole. Std. pkg., 1.

Price, No. 265....each \$ 1.90

No. 63 New Mite Edwards Push Buttons

Turned from brass rod being only $\frac{5}{8} \times \frac{5}{8}$ -inch over all. Pearl center, non-turnable. A dependable push where small dimensions are needed. Standard finish, nickel. For $\frac{1}{2}$ -inch hole. Standard package, 50.



Price, No. 63.....each \$.67

No. 85 High Voltage Edwards Push Buttons

No. 85 high voltage for installations where 110 volt D. C. or A.C. is used. Used extensively for hotel work, etc., where instruments are operated on storage battery. Will

not pass more than $1\frac{1}{2}$ amperes.

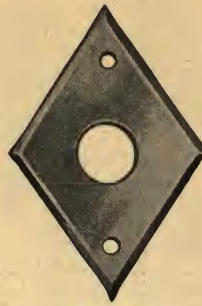
Shell turned from brass rod. Phosphor bronze contacts and springs. Long, quick break. Condensite center.

Standard finish, nickel.

Cat. No.	Volts	Style	Fits Hole Inches	Std. Pkg.	Price Each
85	110	Open Circuit	$\frac{3}{4}$	10	\$2.40
85C	110	Closed "	$1\frac{1}{8}$	1	7.85
85A	220	Open "	$1\frac{1}{8}$	1	6.20

Price, Hard Rubber Insulating Bushing for No. 85 Push.....each \$ 1.40

Price, Hard Rubber Insulating Bushing for No. 85A Push.....each 1.65

Edwards Push Button Plates

No. 157D



No. 158

No. 157 Plates, Diamond or Square

Bevel edge, drilled for one button. No. 157D size between points is $2\frac{1}{8}$ inch x $3\frac{1}{4}$ inches. State when ordering the size push to be used. No. 157S (square) size $1\frac{7}{8}$ inches. State size of push to be used. Assortment permitted to make standard package. Unless otherwise specified, $\frac{5}{8}$ -inch hole furnished.

Standard finish, nickel. Standard package, 25.

Price, No. 157D.....each \$.50
" " 157S....." .50

No. 158 Switch Box Plates

For standard switch box. Drilled for 1, 2 or 3 buttons $\frac{5}{8}$ inch and 1 or 2 buttons $\frac{3}{4}$ inch. Screw hole centers $3\frac{3}{32}$ inches. Machine screws are furnished. Plate does not include buttons. In ordering state size of buttons to be used. If not specified, $\frac{5}{8}$ -inch hole will be drilled.

Standard finish, nickel. Standard package, 25.

Price, No. 158, One Button.....each \$.85
" " 158, Two Buttons....." 1.00
" " 158, Three Buttons....." 1.10

No. 112 DeVeau Elevator Pushes**Schedule E**

Made in 3 different styles as follows: Standard finish is dark statuary bronze. Standard package, 1.

Price, No. 112, Up and Down. each \$5.20

" " 113 " Only....." 4.70

" " 114 Down Only...." 4.70

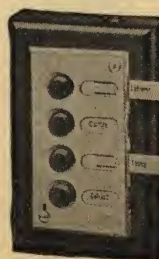
**No. 115 DeVeau Combination Return Call Pushes****Schedule E**

Standard finish, dark statuary bronze Standard package, 1.

Price, No. 115.....each \$7.20

**No. 1-A DeVeau Directory Push Buttons****Schedule E**

Made in surface, wall or desk type. Standard finish oak or mahogany.



No. Buttons	*Std. Pkg.	Price Each	Extra for 6 Ft. of Cable Attached	Extra for Each Add. Ft. of Cable over 6 Ft.
1	5	\$3.90	\$1.16	\$.20
2	5	5.30	1.72	.30
3	5	6.60	2.30	.40
4	5	8.10	2.88	.50
5	5	9.40	3.45	.60
6	5	10.80	4.05	.70
7	5	12.20	4.65	.80
8	5	13.70	5.20	.90
10	5	16.40	6.35	1.10
12	5	20.25	7.50	1.30

Add'l Buttons

per Set of 2 1 4.00 1.00 .20

*Assortment of all sizes, styles and standard finishes, making total of 50 buttons permitted to make up Std. Pkg.



DeVeau Surface Type Push Buttons



An electrose composition unit with leading-in wires houses the entire mechanism. Contact is made on two heavy bronze studs by means of a circular brass disc, carrying on its under surface a circular phosphor-bronze spring temper contactor.

Price, No. 932, Black Oxidized Brass Casing with 6-inch Leads and Porcelain Center.....each \$1.90

Price, No. 922, Same as above, but with Red Bake-lite Center

in place of White Porcelain.....each ..
Price, No. 931, Same as No. 932, but with 20-inch Leads for Street Car Signal Work.....each 2.25
Price, No. 923, Same as above, but with Red Bake-lite Center in Place of White Porcelain.....each

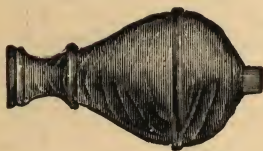
Water-tight Push Buttons



For use where the atmosphere is continuously damp. A water-tight pigskin cap is held in place over push center. Standard package, 10.

Cat. No.	Description	Price Each
1375	2 1/2 Platinum Contacts	\$4.50
1376	2 1/2 Hard Silver "	2.60

Plain Pear Pushes



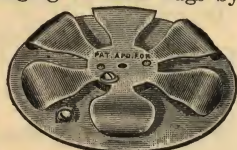
Cat. No.	Description	Price per Doz.
25526	Maple.....	\$4.80
25526A	Imitation Black Walnut.....	4.80
25526B	Stained Cherry.	4.80

No. 800 Daisy Floor Treads

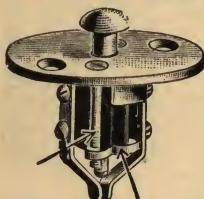
The Daisy Floor Tread is designed to provide a floor push which can be installed without damaging valuable rugs by putting holes in them. By attaching a flexible cord it may be used as a portable push.

Diameter, 3 3/4 inches.

Price.....each \$2.50



No. 237 Edwards Floor Push Buttons



This push is fitted with heavy contacts. Has no attachment for cord. Standard finish nickel.

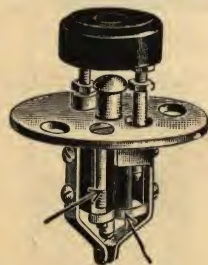
Cat. No.	Std. Pkg.	Price Each
237	25	\$.78

No. 235 Edwards Floor Push Buttons

Equipped with removable plug and extension attachment for connecting flexible cord with lamp, etc.

Nickel finish.

Cat. No.	Std. Pkg.	Price Each
235	25	\$.90



No. 206 Edwards Table Clamps



May be used in connection with floor push or wall plug. Button and contact built in to spring clamp base. Wire connections easily made. Nickel finish.

Cat. No.	Std. Pkg.	Price Each
206	25	\$1.05

No. 9 Edwards Door Openers

Economy, Mortise Type, Solid Nose



Made of heavy pressed steel, heavily brass plated. Used extensively for apartments.

Fits same size mortise as same shape openers of other manufacturers. Width, 3 3/8 inches; depth, 1 3/4 inches; thickness, 1 inch; nosing opening, 1 3/8 inches; face plate, 5 7/8 x 1 1/4 inches.

Price includes No. 89 pushout spring.

May be used on either right or left hand doors. Regular resistance is two ohms.

Special resistance up to 20 ohms, add to price \$1.00; 21 to 50 ohms, \$1.25; 51 to 75 ohms, \$1.50.

Standard package, 50.

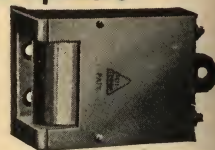
Price, No. 9.....each \$3.10

No. 152 Edwards Door Openers

Rim Type, Solid Nose

For surface locks, thin doors, etc. Made of cast bronze. Width, 2 inches; depth, 2 3/8 inches; thickness, 1 1/8 inches. Nosing opening, 1 1/4 inches. Brass front. Price includes No. 79 pushout spring.

Price, No. 152, Std. Pkg., 10.....	each	\$6.00
" for Surface Conduit Std. Pkg., 1.....	"	25.00



No. 155 Edwards Door Openers

Nojar, Mortise Type, Solid Nose



For use with heavy doors. Width, 2 inches; depth, 2 3/8 inches; thickness, 1 1/8 inches. Nosing opening, 1 1/4 inches. Face plate, 1 1/4 x 3 3/8 inches. Brass finish. Price includes No. 79 pushout spring.

Can be supplied with release check, permitting its use where air checks are employed, at additional price of \$2.00.

No. 155 opener may be used on either right or left hand doors.

Regular resistance, two ohms. Special resistance up to 20 ohms, add to price \$1.00; 21 to 50 ohms, \$1.25; 51 to 75 ohms, \$1.50. Standard package, 10.

Price, No. 155.....each \$4.95

No. 154 Edwards Door Openers

Mortise Type, Roller Nose

This type is suitable for heavy doors. It requires a smaller mortise than the Economy.

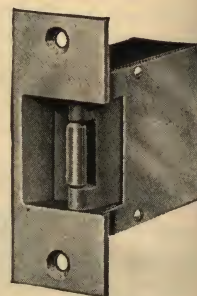
Width, 2 inches; depth, 2 3/8 inches; thickness, 1 1/8 inches. Nosing opening, 1 1/4 inches. Face plate, 1 1/4 x 3 3/8 inches. Brass finish.

Price includes No. 79 pushout spring.

Can be supplied with a release check permitting the use of door opener where air checks are employed; add to price, \$2.00.

May be used on either right or left hand doors. Regular resistance is two ohms. Special resistance up to 20 ohms, add to price, \$1.00; 21 to 50 ohms, \$1.25; 51 to 75 ohms, \$1.50. Standard package, 10.

Price, No. 154.....each \$5.65



No. 3179 Push-out Springs

Schedule 3



Price, No. 3179, Std. Pkg. 100.....each \$.50



No. 3160 Tin Speaking Tubes



A light seamless tin tube which can be used in many residences, apartment buildings and other locations where conversation is desired with entrance vestibule or from one floor to another.

Diameter, one inch; furnished in 5-foot lengths.

Price, No. 3160per ft. \$.05

No. 3170 Speaking Tube Elbows

Square elbows, 1-inch in diameter. Soldered seams and joints.

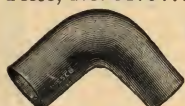
Price, No. 3170each \$.06



No. 3175 Speaking Tube Elbows

Round elbow, one inch in diameter. Has soldered seams and joints.

Price, No. 3175each \$.07



No. 3184 Speaking Tube Tee Joints

Diameter, one inch. Has soldered seams and joints.

Made for use with standard 1-inch speaking tube and when properly installed makes a firm, rigid joint.

Price, No. 3184each \$.12



No. 2250 Speaking Tube Mouthpieces



Brush brass finish; diameter, one inch. For use with standard 1-inch speaking tube on the end which terminates in vestibule or where a whistle signal is not required.

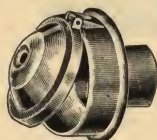
Price, No. 2250each \$.20

No. 2500 Speaking Tube Whistles

Brush brass finish; diameter, one inch. For use with standard 1-inch speaking tube on the end when it is necessary to have a signal by means of which a call may be answered.

The whistle is hinged and can be raised up so that it will not interfere with the talking.

Price, No. 2500each \$.30

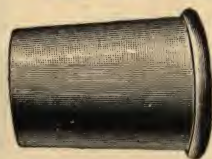


No. 3151 Collars for Flexible Tubes

Price, No. 3151, Size 1-inch ea. \$.25

No. 3152 Flanges or Rosettes

For Mouthpieces or Whistles



Price, No. 3152, Size 1 Incheach \$.06

Speaking Tube Staples

Price, Staples, Size, 1x2 Inchesper pound \$.30



No. 3159 Speaking Tube Racks

Nickel-plated finish.

Price, No. 3159 Tube Racks ..ea. \$.50



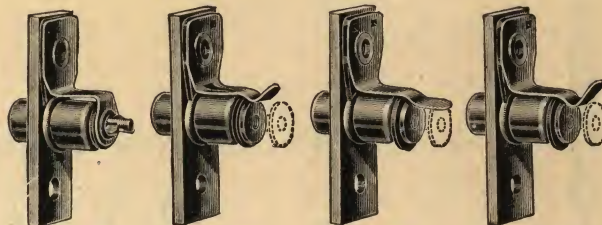
Flexible Speaking Tube Terminals



Convenient for use on end of speaking tube line fitted with either whistle or open mouthpiece.

Cat. No.	Length Feet	Price Each
3155	2	\$2.50
3156	3	3.10

Burglar Alarm Door Springs



No. 1566

No. 1567

No. 1568

No. 1569

Price, No. 1566 Open Circuiteach \$.30
 " " 1567 " " " .38
 " " 1568 Closed Circuit " .45
 " " 1569 Make or Break " .45

Burglar Alarm Window Springs



No. 1573

Window springs are generally set in the frame of the window so that the tongue rests in a channel which, by the opening of the window depresses the spring, closing the circuit and sounding an alarm.

Standard package, 100.



No. 1574

Price, No. 1573 Transom Springeach \$1.50
 " " 1574 Window "53

No. 1570 Burglar Alarm Door Trips



For use over store doors to announce entrance of customer. Rings signal when door passes the trip, but is silent when open and in closing door. Standard package 25

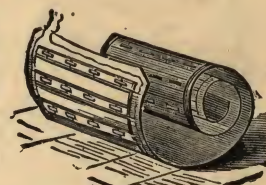
Price, No. 1570 Open Circuiteach \$.95

Burglar Alarm Matting

If placed at the entrance to an apartment, no person can enter without sounding an alarm.

Full roll, 10 feet. Cut any length to order.

Cat. No.	Width of Rolls, Ft.	Price per Sq. Ft.
1604	2	\$2.00



No. 2200 Standard Letter Boxes



This letter box has hinged door, lock and two keys, beveled plate glass window and space for name. The push button is fitted with black composition center, fibre back and nickel-silver spring. Brush brass finish.

Dimensions over all, 11 $\frac{1}{8}$ x 4 $\frac{3}{8}$ inches; letter opening, 3 $\frac{3}{4}$ inches.

For mounting on tile or marble make wall opening for nest of three boxes, 13 inches wide by 10 inches high.

A d or deduct for more or less boxes, 4 $\frac{3}{8}$ inches per box in width.

Boxes mounted on oak frame, change height of opening to 10 $\frac{1}{2}$ inches, or for mounting loose on wainscoting, change height of opening to 6 $\frac{3}{4}$ inches.

Price, No. 2200each \$3.00

We are New England Distributors for the
BEST SELLING LAMPS
in America

EDISON MAZDA LAMPS



We carry in our warehouse at all times the largest supply of all standard types and sizes that can be found in New England, which enables us to fill practically all orders on the same day they are received.

Consumer advertising and sales helps, unapproached for variety, forcefulness and sales-stimulating value, help our customers to secure a stock-turnover that is not duplicated by any competing line.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Edison Mazda Lamps

Edison Mazda Lamps Extra Charges for Special Features Frosted Lamps

The following list additional charges shall be added to the list prices of clear lamps for either bowl-frosting or all-frosting such clear lamps.

Price Clear Lamps Each	List Additional Charge Frosting	Price Clear Lamps Each	List Additional Charge Frosting
Less than \$1.00	\$.05	\$6.00 to \$6.99	\$.35
\$1.00 to 1.99	.10	7.00 " 7.99	.40
2.00 " 2.99	.15	8.00 " 8.99	.45
3.00 " 3.99	.20	9.00 " 9.99	.50
4.00 " 4.99	.25	10.00 " 10.99	.55
5.00 " 5.99	.30	11.00 " 11.99	.60

Spray Colors and Spray Tints

The following additional list charges shall be added to the list prices of clear lamps for spray colors and spray tints as listed below. Colors and tints are not recommended on lamps larger than 150 watts.

Price of Clear Lamps	Additional Charge for Red, Yellow, Green, Blue or Amber-orange Colors, and for Ivory or Flame Tints
Less than \$1.00	\$.10
\$1.00 to 1.99	.20
2.00 " 2.99	.30
3.00 " 3.99	.40
4.00 " 4.99	.50

The extra charges given above apply only to the Manufacturers' standard spray colors and spray tints.

Natural Colored Lamps

For natural colored lamps in S-17, S-19, S-21, S-30, PS-16, PS-20, PS-22, PS-25, G-18½, G-25, G-30, P-19, T-8 and T-10 bulbs, add the following percentages to the price of clear lamps: Green or blue, 50 per cent; purple, 75 per cent; ruby or opal, 100 per cent; amber or canary, 150 per cent. Mazda lamps in S-14 bulbs, take the following percentages additional: Green or blue, 40 per cent; purple, 60 per cent; ruby or opal, 75 per cent; amber or canary, 100 per cent. The extra charges given above cover only bulbs of the manufacturer's standard colored glass.

Voltage

Approximately 90 per cent of the demand for lamps in the 100-130 voltage range is for lamps of 110, 115 and 120 volts; consequently lamps of only such voltages are listed in the price schedules of standard lamps. Nine tenths of the remaining demand for lamps in this voltage range is for lamps of 112, 118, 125 and 130 volts and these lamps, although not regularly carried in stock in all places are obtainable at the same price.

As lamps for 220, 230, 240 and 250 volts cover approximately 90 per cent of the demand, lamps for other voltages between 200 and 260 are not regularly carried in stock in all places but may be obtained at the same prices.

Lamps for 265, 270, 280, 285, 290, 295 and 300 volts may be supplied at the same list prices as those for 275 volts.

Etching

Additional charges for etching letters or designs may be obtained upon application. Style of lettering or design should accompany such application.

Etched lamps are not rejectable by the purchaser under the provisions of the standard specifications governing the rejection of clear lamps (see part 1, section 1, clause 3, Standard Specifications for Large Tungsten Filament Incandescent Electric Lamps, May 1, 1923).

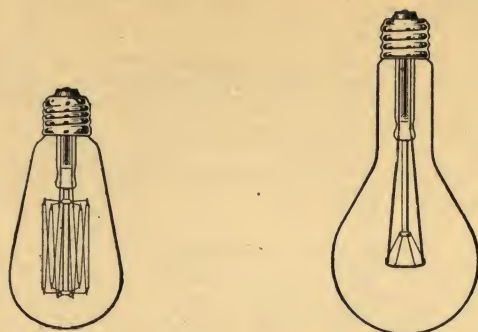
Special Basing

The prices listed cover only lamps fitted with unskirted bases unless otherwise indicated. The price of lamps fitted with bases other than listed may be obtained on application.

Special Lamps

Any lamp requiring a change in construction from the standard, such as shape or color or bulb, number of loops in filament, number of anchors, watts, volts, amperes, etc., will take a special price, which may be obtained upon application.

As it is impossible always to produce an exact quantity of any special lamp ordered, or of any lamp to be made tipless (when listed as tipped), or of any lamp to be furnished with natural colored, spray colored or spray tinted bulbs, all such orders may be filled either short or in excess, within the limits of 10 per cent, except that on orders for 20 lamps or less the shortage will not exceed two lamps.



General Features of Mazda Lamps

Convenience, reliability, high efficiency and adaptability are some of the features of Mazda lamps which are responsible for their rapid adoption in store, office, factory and public building lighting; in city and suburban homes; in flashlight, hand lantern and automobile service; in street and sign lighting in mines and many other classes of service. The schedules which follow present the wide variety of sizes in which Mazda lamps are regularly manufactured to meet this widely diversified demand.

Mazda lamps are divided into two general classes: Large and miniature styles.

Notice to Agents and Purchasers

Lamps in the following Standard Price Schedules are separated into two main divisions—the first comprising those for general lighting service—and the second those for special lighting service, such as sign, projection, etc. The relative demand for lamps in each of these divisions is indicated by the classification symbols (I, I-Special, II, II-Special, etc.) appearing on each page under the heading Consignment Classification. This grouping will serve as a guide to agents in determining the stocks of lamps necessary to enable them to supply properly the lamp demand. Lamps not carried in the manufacturer's consigned stock in the custody of the agent, and for which there is only an occasional demand, may be obtained promptly from the serving agent or manufacturer.

The meanings of the classification symbols are as follows:

Classification Symbol I

These are the most popular lamps for general lighting service, and from this group a stock will be maintained in the custody of any agent handling retail, over-the-counter sales.

Classification Symbol I-Special

Lamps so classified are the most important lamps for special lighting service, such as country home, sign, projection, etc., and from this group a stock will be maintained in the custody of any agent having retail demand for any of these lamps.

Classification Symbols II and II-Special

Additional general lighting service lamps (II) and special lighting service lamps (II-Special) available for consignment to agents serving purchase contracts or having other proven demand for such lamps.

Classification Symbols III and III-Special

Further additional general service (III) and special lighting service (III-Special) lamps available for the consigned stocks of Form B agents only, having proven demand for such lamps. These lamps are to be shipped by the Form B agent only on order direct to consumers.

Classification Symbol IV

Lamps of very infrequent demand carried in manufacturers' warehouses for shipment by the manufacturer direct to purchasers at agent's request.



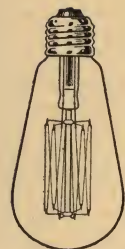
Edison Mazda B Lamps

110, 115 and 120 Volts

These lamps constitute more than 75 per cent of the ordinary lamp demand for residence lighting.

Fitted with medium screw base.

Package quantity 120.



Watts	Style Bulb	Over All Length Inches	Lumens	Consignment Classification	Price Each
10	S17 Clear	4 $\frac{11}{16}$	82	III	\$.27
15	S17 "	4 $\frac{11}{16}$	130	I	.27
25	S17 "	4 $\frac{11}{16}$	240	I	.27
40	S19 "	5 $\frac{1}{4}$	400	I	.27
50	S19 "	5 $\frac{1}{4}$	520	I	.27
60	S21 "	5 $\frac{3}{8}$	620	I	.32

Edison Mazda B Mill Type Lamps

110, 115 and 120 Volts

These lamps are of special construction to give the ruggedness that will insure satisfactory service under unusual conditions of vibration or repeated mechanical shocks. Fitted with medium screw base.

Package quantity 120.



Watts	Style Bulb	Over All Length Inches	Lumens	Consignment Classification	Price Each
25	P19 Clear	3 $\frac{5}{16}$	220	II	\$.30
50	P19 "	3 $\frac{5}{16}$	440	II	.30

Edison All Frosted Mazda B Lamps

110, 115 and 120 Volts

Straight Side Bulb

Whenever lamps are not placed in enclosing or suitable diffusing glassware, those in diffusing bulbs are preferable to the clear lamps. Fitted with medium screw base.

Package quantity 120.



Watts	Style Bulb	Over All Length Inches	Consignment Classification	Price Each
15	S17 Frosted	4 $\frac{11}{16}$	III	\$.32
25	S17 "	4 $\frac{11}{16}$	I	.32
40	S19 "	5 $\frac{1}{4}$	II	.32
25	P19 "	3 $\frac{5}{16}$	I	.35

Edison All Frosted Mazda B Lamps

110, 115 and 120 Volts

Round Bulb

Whenever bulbs are not placed in enclosing or suitable diffusing glassware, those in diffusing bulbs are preferable to the clear lamps. Fitted with medium screw base.

Package quantity: G18 $\frac{1}{2}$ bulb, 120; G25 bulb, 60.

Watts	Style Bulb	Over All Length Inches	Consignment Classification	Price Each
15	G18 $\frac{1}{2}$ Frosted	3 $\frac{3}{16}$	II	\$.40
25	G18 $\frac{1}{2}$ "	3 $\frac{3}{16}$	I	.40
25	G25 "	4 $\frac{1}{2}$	II	.50
40	G25 "	4 $\frac{1}{2}$	II	.50



Edison White Mazda C Lamps

110, 115 and 120 Volts

Whenever lamps are not placed in enclosing or suitable diffusing glassware, those in diffusing bulbs are preferable to the clear lamps.

Fitted with medium screw base.

Package quantity: PS20 and PS22 bulb, 60; PS25 bulb, 24.



Watts	Style Bulb	Over All Length Inches	Consignment Classification	Price Each
50	PS20 White	5 $\frac{3}{16}$	I	\$.40
75	PS22 "	5 $\frac{7}{8}$	II	.50
100	PS25 "	6 $\frac{15}{16}$	II	.60

Edison Decorative Mazda B Lamps

110, 115 and 120 Volts



B-Bulb



G-Bulb



D-Bulb



T-Bulb

These lamps are made in the various styles illustrated above and listed below, and are used for decorative purposes.

Fitted with candelabra screw base.

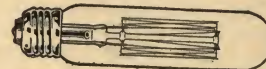
Package quantity 60.

All Frosted

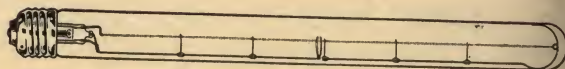
Watts	Style Bulb	Over All Length Inches	Consignment Classification	Price Each
15	B 9 $\frac{1}{2}$ Frosted	3 $\frac{5}{16}$	IV	\$.60
15	G16 $\frac{1}{2}$ "	3	III	.60
15	D10 "	3 $\frac{9}{16}$	III	.60
15	T 8 "	3 $\frac{9}{16}$	IV	.60
Clear				
15	B 9 $\frac{1}{2}$ Clear	3 $\frac{5}{16}$	IV	\$.60
15	G16 $\frac{1}{2}$ "	3	IV	.60
15	D10 "	3 $\frac{9}{16}$	IV	.60
15	T 8 "	3 $\frac{9}{16}$	IV	.60

Edison Tubular Clear Bulb Mazda B Lamps

110, 115 and 120 Volts



25-watt Tubular



40-watt Tubular

Designed for show cases, special display sign and cornice lighting or for other service where a line source is necessary to light confined places or to define outlines.

Fitted with medium screw base.

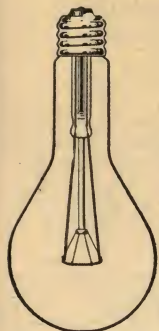
Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
25	T10 Clear	5 $\frac{11}{16}$	60	II-Spl.	\$.45
40	T 8 "	11 $\frac{1}{8}$	24	IV	1.15



Edison Mazda C Lamps

110, 115 and 120 Volts

These lamps constitute a great percentage of the ordinary lamp demand for store and office lighting. Proper reflector should be provided to protect the eyes from the extremely bright filaments of a Mazda C lamp especially whenever the lamp is hung low in the usual line of vision.



Clear—Medium Screw Base

Watts	Style Bulb	Over All Length Inches	Lumens	Pack-age Quantity	Consign-ment Classi-fication	Price Each
50	PS20 Clear	5 3/8	500	60	II	\$.40
75	PS22 "	5 7/8	900	60	I	.45
100	PS25 "	6 1/8	1300	24	I	.55
150	PS25 "	6 1/8	2100	24	II	.70
200	PS30 "	8 1/8	2100	24	II	.95

Clear—Mogul Screw Base

300	PS35 Clear	9 7/8	4900	24	II	\$1.50
* 500	PS40 "	9 3/8	9200	12	II	2.25
* 750	PS52 "	13 1/8	14500	8	III	3.75
*1000	PS52 "	13 1/8	20000	8	III	4.00

Bowl Enamel—Medium Screw Base

100	PS25 Bowl Enamel	6 5/8	.....	24	II	\$.60
150	PS25 "	6 5/8	.....	24	II	.75
200	PS30 "	8 1/8	.....	24	II	1.00

Bowl Enamel—Mogul Screw Base

300	PS35 Bowl Enamel	9 7/8	.....	24	II	\$1.60
* 500	PS40 "	9 3/8	.....	12	II	2.40
* 750	PS52 "	13 1/8	.....	8	IV	3.95
*1000	PS52 "	13 1/8	.....	8	IV	4.25

*If these lamps are for use in other than base up position, order should so state.

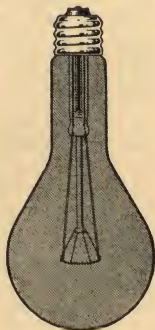
Edison Mazda C Daylight Lamps

110, 115 and 120 Volts

The Mazda C Daylight Lamp has a bulb made of special blue glass, to produce light approximating average daylight quality.

It is recommended for stores, offices, display windows and factories whenever it is desired to show colors more nearly in their true daylight appearance than is possible by means of customary artificial light.

To get this effect no other illuminants should be burned in the same room or enclosure. Not recommended for accurate color matching. Special color matching units are available for this purpose.



Daylight—Medium Screw Base

Watts	Style Bulb	Over All Length Inches	Pack-age Quantity	Consign-ment Classi-fication	Price Each
50	PS20 Daylight	5 3/8	60	III	\$.60
75	PS22 "	5 7/8	60	I	.65
100	PS25 "	6 1/8	24	II	.85
150	PS25 "	6 1/8	24	II	1.10
200	PS30 "	8 1/8	24	II	1.45

Daylight—Mogul Screw Base

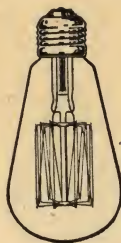
300	PS35 Daylight	9 7/8	24	II	\$2.10
*500	PS40 "	9 3/8	12	IV	3.10

*If this lamp is for use in other than base up position, order should so state.

Edison Mazda B Lamps

220, 230, 240 and 250 Volts

These lamps are higher in price and less efficient than 110, 115 and 120-volt lamp of same wattage and should not be used where it is possible to change the service from 220, 230 240 and 250 volts to 110, 115 and 120 volts. Fitted with medium screw base.



Watts	Style Bulb	Over All Length Inches	Lumens	Pack-age Quantity	Consign-ment Classi-fication	Price Each
25	S19 Clear	5 1/4	195	120	I-Special	\$.32

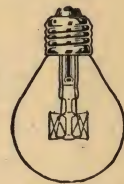
Edison Mazda B Mill Type Lamps

220, 230, 240 and 250 Volts

This lamp is of special construction to give the ruggedness that will insure satisfactory service under unusual conditions of vibration or repeated mechanical shocks.

Fitted with medium screw base.

Package quantity, 120.



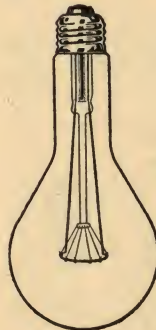
Watts	Style Bulb	Over All Length Inches	Lumens	Pkg. Quantity	Consign-ment Classi-fication	Price Each
50	P19 Clear	3 5/8	410	120	Special	\$.32

Edison Mazda C Lamps

220, 230, 240 and 250 Volts

These lamps are higher in price and less efficient than 110, 115 and 120-volt lamp of same wattage and should not be used where it is possible to change their service from 220, 230, 240 and 250 volts to 110, 115 and 120 volts.

Orders for lamps of 300 watts and greater should state specifically if lamps are to be burned in any other than base up position.



Clear—Medium Screw Base

Watts	Style Bulb	Over all Length Inches	Lumens	Pack-age Quantity	Consign-ment Classi-fication	Price Each
100	PS25 Clear	6 5/8	980	24	I-Spec.	\$.70
200	PS30 "	8 1/8	2500	24	II "	1.15

Clear—Mogul Screw Base

300	PS35 Clear	9 7/8	4300	24	II-Spec.	\$1.80
*500	PS40 "	9 3/8	8000	12	II "	2.55
*750	PS52 "	13 1/8	12500	8	IV "	4.35
*1000	PS52 "	13 1/8	18000	8	IV "	5.00

Bowl Enamel—Medium Screw Base

100	PS25 Bowl Enamel	6 5/8	.....	24	II-Spec.	\$.75
200	PS30 "	8 1/8	.....	24	II "	1.25

Bowl Enamel—Mogul Screw Base

300	PS35 Bowl Enamel	9 7/8	.....	24	II-Spec.	\$1.90
*500	PS40 "	9 3/8	.....	12	II "	2.70
*750	PS52 "	13 1/8	.....	8	IV "	4.60
*1000	PS52 "	13 1/8	.....	8	IV "	5.30

*If this lamp is for use in other than base up position, order should so state.

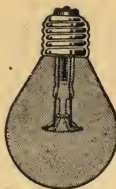


Edison Sign Lighting Mazda B Lamps

110, 115 and 120 Volts



Fitted with medium screw base. The bulb of the blue sign lamp is of special light blue glass to give a whiter light than the ordinary clear bulb lamp.



Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
10	S14 Clear	3 $\frac{3}{8}$	200	I-Special	\$.27
25	P19 Blue	3 $\frac{5}{8}$	120	I "	.45
50	P19 "	3 $\frac{5}{8}$	120	II "	.45

Edison Sign Lighting Mazda B Lamps

11, 11 $\frac{1}{2}$ and 12 Volts

On alternating current these lamps are generally operated on a transformer circuit where the voltage is reduced from 110, 115 or 120 volts. On direct current these lamps may be operated 10 in series on the 110, 115 or 120-volt circuit. Medium screw base.

Package quantity, 200.

11, 11 $\frac{1}{2}$ and 12 Volts

55 and 60 Volts

Watts	Style Bulb	Over All Length Inches	Consignment Classification	Price Each
5	S14 Clear	3 $\frac{3}{8}$	III-Special	\$.27

55 and 60 Volts

These lamps are usually burned two in series or in series multiple on 110, 115 or 120 volts. Medium screw base.

5	S14 Clear	4 $\frac{3}{8}$	III-Special	\$.27
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Edison Mazda B Lamps For Country Home Lighting Service

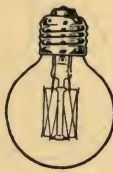
28-32 Volts



These lamps are supplied for only one voltage and are adapted for use on circuits the voltage of which varies between 28 and 32 volts.

Fitted with medium screw base.

In ordering specify 28-32 volts and Country Home Lighting.



S-Bulb

G-Bulb

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
10	S17 Clear	4 $\frac{1}{8}$	120	I-Special	\$.27
15	S17 "	4 $\frac{1}{8}$	120	II "	.27
25	G18 $\frac{1}{2}$ Frosted	3 $\frac{3}{8}$	120	II "	.40
25	S17 Clear	4 $\frac{1}{8}$	120	I-Special	.27
40	S19 "	5 $\frac{1}{4}$	120	I "	.27

Edison Mazda C Lamps

For Country Home Lighting Service

28-32 Volts

These lamps supplied only for one voltage which varies between 28 and 32 volts. Fitted with medium screw base. In ordering specify 28-32 volts and Country Home Lighting.



White

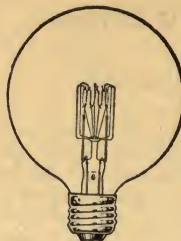
Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
15	PS16 White	3 $\frac{3}{8}$	120	IV	\$.40
25	PS16 "	3 $\frac{3}{8}$	120	II-Special	.40
50	PS20 "	5 $\frac{3}{8}$	60	I "	.40

Clear

50	PS20 Clear	5 $\frac{3}{8}$	60	I-Special	\$.40
75	PS22 "	5 $\frac{3}{8}$	60	II "	.50
100	PS25 "	6 $\frac{3}{8}$	24	II "	.65

Edison Mazda C Projection Lamps

110, 115 and 120 Volts



Orders must specify for projection service. Can be burned in any position within 45 degrees of vertical, base up.

Fitted with medium screw base. Length of light center, three inches.

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
100	G25 Clear	4 $\frac{1}{2}$	60	I-Special	\$1.10
250	G30 "	5 $\frac{3}{8}$	24	III "	1.85
400	G30 "	5 $\frac{3}{8}$	24	III "	3.25

† Mogul screw base can be supplied at same price with light center length of 3 $\frac{3}{8}$ inches and over all length of 5 $\frac{3}{8}$ inches.

‡ Medium screw skirted base can be supplied at the same price with a light center length of 3 $\frac{3}{8}$ inches and a maximum over all length of 6 $\frac{1}{8}$ inches.

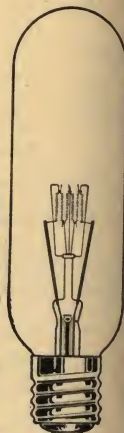
Edison Mazda C Projection Lamps

110, 115 and 120 Volts



250 Watts

The concentrated light source placed in a tubular bulb permits of a more efficient utilization of light as the lens equipment can be placed closer to the light source and therefore should be used wherever possible in preference to a round bulb lamp. Light centers, 250-watt and 400-watt, three inches; 1000-watt, 4 $\frac{3}{4}$ inches. These lamps must burn base down.



1000 Watts

Watts	Style Bulb	Over All Length Inches	Screw Base	Package Quantity	Consignment Classification	Price Each
250	T14 Clear	5 $\frac{3}{8}$	Medium	24	II-Special	\$1.75
*400	T20 "	5 $\frac{3}{8}$	"	6	II "	3.00
1000	T20 "	9 $\frac{1}{8}$	Mogul	6	II "	7.00

*Medium skirted screw base can be shipped at same price with light center of 3 $\frac{3}{8}$ inches and over all length 6 $\frac{1}{2}$ inches.

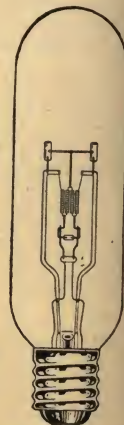
Edison Mazda C Projection Lamps

28-32 Volts



300 Watts

For use in small motion picture machines and projection or stereopticon lanterns. The 20-ampere, 600-watt lamp is recommended for short throws such as found in churches, lodges, etc. The 30 ampere, 900-watt lamp is recommended in all cases for general motion picture theatre projection service. Light centers, 300-watt, three inches; 600 and 900-watt, 4 $\frac{3}{4}$ inches. These lamps must burn base down.

600 Watts, 20 Amperes
900 Watts, 30 Amperes

Watts	Style Bulb	Over All Length Inches	Screw Base	Package Quantity	Consignment Classification	Price Each
300	T16 Clear	5 $\frac{3}{8}$	Medium	12	IV	\$2.75
600	T20 "	9 $\frac{1}{8}$	Mogul	6	I-Special	6.00
900	T20 "	9 $\frac{1}{8}$	"	6	I "	6.75



Edison Mazda C Lamps

For Floodlighting

110, 115 and 120 Volts

Orders for this lamp must specify for floodlighting service. It can be burned in any position except within 45 degrees of vertically, base up. Light centers, 250-watt, three inches; 500 watt, 4 1/4 inches.

Watts	Style Bulb	Over All Length Inches	Screw Base	Package Quantity	Consignment Classification	Price Each
250	G30 Clear	5 3/8	*Medium	24	II-Special	\$1.85
500	G40 "	7 3/8	Mogul	12	II "	3.25

*Mogul base can be supplied at same price with light center length of 3 3/8 inches and maximum over all length of 5 5/8 inches.

Edison Mazda B Lamps

For Street Railway Lighting Service

105, 110, 115, 120, 125 and 130 Volts

Selected for amperes and labeled for use five in series on the 525, 550, 575, 600, 625, and 650-volt circuits ordinarily used by electric street railway companies.

As considerable voltage fluctuation is sometimes found in this class of circuits, these lamps are only manufactured for six-voltage groups and care should be taken to see that the voltage group of lamps supplied corresponds closely to the average voltage found on the circuit.

Only the lamps listed below, selected for amperes and for one-fifth the voltage on which they are labeled for use in series, will be supplied at the prices shown.

Fitted with medium screw base.

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
23	S17 Clear	4 1/8	120	III-Special	\$.27
36	S19 "	5 3/8	120	III "	.27
56	S21 "	5 7/8	120	III "	.32
94	S24 1/2 "	7 3/8	60	III "	.85

Edison Mazda B Lamps

For Street Railway Headlights

105, 110, 115, 120, 125 and 130 Volts

Selected for amperes and labeled for use five in series on the 525, 550, 575, 600, 625 and 650-volt circuits ordinarily used by electric street railway companies.

As considerable voltage fluctuation is sometimes found in this class of circuits, these lamps are only manufactured for six-voltage groups and care should be taken to see that the voltage group of lamps supplied corresponds closely to the average voltage found on the circuit.

Only the lamps listed below, selected for amperes and for one-fifth the voltage on which they are labeled for use in series, will be supplied at the prices shown below. Fitted with medium screw base.

Package quantity: G18 1/2 bulb, 120; G25 bulb, 60.

Watts	Style Bulb	Over All Length Inches	Light Center Inches	Consignment Classification	Price Each
23	G18 1/2 Clear	3 3/8	2 3/8	III-Special	\$.75
36	G18 1/2 "	3 3/8	2 3/8	III "	.75
46	G25 "	4 1/2	2 1/8	IV	.90
56	G25 "	4 1/2	2 1/8	IV	.90
94	G25 "	4 1/2	2 1/8	III-Special	1.15

Edison Mazda C Lamps

For Locomotive Headlights

30 to 34 Volts

This lamp can be burned in any position except within 45 degrees of vertically, base up. Light centers, three inches.

Fitted with medium screw base.

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
100	G25 Clear	4 1/2	60	III-Special	\$1.10
250	G30 "	5 3/8	24	III "	1.85

Edison Mazda B Lamps

Train Lighting

30 to 34 Volts

This lamp is used for ordinary train lighting service and is generally operated from a locomotive headlight outfit or from a 16-cell storage battery lighting system.

Fitted with medium screw base.

Orders should specify the individual voltage required and be marked Train Lighting.

Straight-side Bulbs

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
15	S17 Clear	4 1/8	120	III-Special	\$.27
*15	S17 "	4 1/8	120	III "	.27
20	S17 "	4 1/8	120	IV	.27
25	S17 "	4 1/8	120	III-Special	.27

Round Bulbs

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
15	G18 1/2 Clear	3 3/8	120	III-Special	\$.35
25	G18 1/2 "	3 3/8	120	III "	.35

*For locomotive cab lighting. Orders should specify 33 volts.

Edison Mazda C Lamps

Train Lighting

30 to 34 Volts

Designed for train lighting service and are generally operated from locomotive headlight outfits or from 16-cell storage battery lighting systems.

Fitted with medium screw base.

Orders should specify the individual voltage required and be marked Train Lighting.

Clear

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
50	PS20 Clear	5 3/8	60	III-Special	\$.40
75	PS22 "	5 7/8	60	III "	.50
100	PS25 "	6 15/16	24	III "	.65

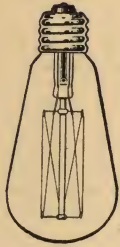
All Frosted

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
*15	PS16	3 3/8	120	IV	\$.40
*25	PS16	3 3/8	120	III-Special	.40

Bowl Frosted

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
50	PS20	5 3/8	60	IV	\$.45

*May be obtained clear at same price.



Edison Mazda Lamps

Train Lighting 60 to 65 Volts

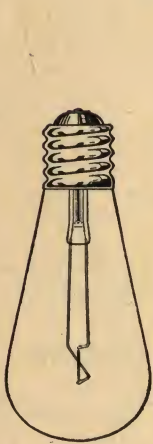
For use in general train lighting service when a lower voltage lamp cannot be used.

Orders should specify the individual voltage required and should also indicate that the lamp is for train lighting service.

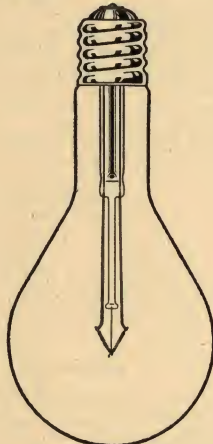
Fitted with medium screw base.

Watts	Style Bulb		Kind	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
15	S-17	Clear	Mazda B	4 $\frac{11}{16}$	120	III-Special	\$.27
25	S-17	"	" " "	4 $\frac{11}{16}$	120	III	" .27
15	G18 $\frac{1}{2}$	"	" " "	3 $\frac{9}{16}$	120	III	" .35
25	G18 $\frac{1}{2}$	"	" " "	3 $\frac{9}{16}$	120	III	" .35
50	PS20	"	" C	5 $\frac{3}{8}$	60	III	" .40
75	PS22	"	" " "	5 $\frac{1}{8}$	60	III	" .50
100	PS25	"	" " "	6 $\frac{5}{8}$	24	III	" .68

Edison Street Series Mazda C Lamps



S-Bulb
6.6 Amperes



P-S Bulb
6.6 Amperes

This lamp is for use on constant current circuits only. Orders for a lamp of 2500 lumens and greater should specifically so state, if it is to be burned in other than base up position. The nominal candle-power of this lamp is one-tenth of its lumen rating.

Fitted with mogul screw base.

6.6 Amperes

Lumens	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
600	S24 1/2 Clear	7 1/16	60	II-Special	\$.85
800	S24 1/2	7 1/16	60	II	" .90
1000	S24 1/2	7 1/16	60	II	" .90
2500	PS35	9 7/16	24	II	" 1.80
4000	PS35	9 7/16	24	II	" 2.60
6000	PS40	9 13/16	12	II	" 3.25

15 and 20 Amperes

This lamp is ordinarily supplied from a 6.6 ampere circuit with the use of a two-coil or auto-transformer for stepping up the current.

If for use in other than base up position, orders should so state.

Lumens	Style Bulb	Over All Length Inches	Amperes	Package Quantity	Consignment Classification	Price Each
4000	PS40 Clear	12 3/8	15	12	II-Special	\$2.60
6000	PS40	12 3/8	20	12	II	" 3.25
10000	PS40	12 3/8	20	12	II	" 4.00
15000	PS40	12 3/8	20	12	IV	" 5.00
25000	PS52	13 1/8	20	8	IV	" 7.50

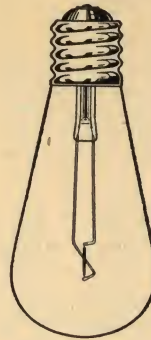
Edison Street Series Mazda C Lamps

4, 5.5 and 7.5 Amperes

Fitted with mogul screw base. In S24 1/2 bulbs, over all length, 7 1/8 inches.

The nominal candle-power of these lamps is 1/10 of their lumen rating.

Package quantity, 60.



Lumens	Amperes	Consignment Classification	Price Each
600	4, 5.5, 7.5	II-Special	\$.85
800	4, 5.5, 7.5	II	" .90
1000	4, 5.5, 7.5	II	" .90

Edison Street Series Mazda C Lamps

4, 5.5 and 7.5 Amperes

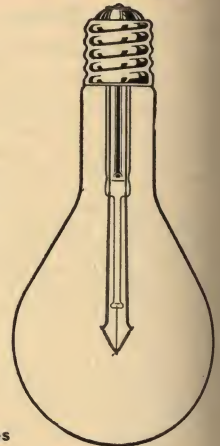
Orders for lamps of 2500 lumens or greater should specifically so state, if they are to be burned in other than base up position.

The nominal candle-power of these lamps is one-tenth of their lumen rating.

Fitted with mogul screw base.

Consignment classification, IV.

Clear bulb.



4, 5.5, 7.5 Amperes

Lumens	Style Bulb	Over All Length Inches	Package Quantity	Price Each
2500	PS35	9 7/16	24	\$1.80
4000	PS35	9 7/16	24	2.60

7.5 Amperes

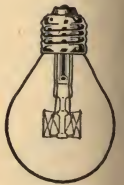
6000	PS40	9 13/16	12	\$3.25
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Edison Mazda B Lamps

For Mine Lighting

For use in lighting mines. Has medium screw base. Volts, 275. Clear bulb.

Watts	Style Bulb	Over All Length Inches	Package Quantity	Consignment Classification	Price Each
50	P19	3 5/16	120	II-Spec.	\$.47



Carbon Series Lamps

For Electric Street Railway Service



S-19 Bulb
50 and 60 Watts
110-125 Volts
64-watt
(5 in Series)

These lamps are selected for amperes and are labeled for use, five in series on 525, 550, 575, 600, 625 and 650 volts.

Made in S19 bulb, over all length, 5 5/8 inches.

Fitted with medium screw base.

Watts	Efficiency W. P. C.	Package Quantity	PRICE, EACH	Frosted
64	4	250	Clear \$.22	\$.25



Edison Colored Mazda B Lamps

110, 115 and 120 Volts



Flame Tinted Lamp



Colored Lamp

These lamps are colored with a weatherproof coating. Fitted with medium screw base.

Flame Tinted Mazda B Lamps

Flame tinted lamps give a soft tinted lighting effect often desirable in homes, hotels, theatres, etc.

The decorative types listed below will supply the general demand.

Watts	Style Bulb	Package Quantity	Consignment Classification	Price Each
25	G18½	120	II	\$.50
25	G25	60	III	.60
40	G25	60	III	.60

Red, Blue, Green and Yellow Mazda B Lamps

Substantially all of the color effects required for decorative and display lighting in theatres, restaurants, signs, etc., can be produced by these four colors and the three lamps listed below. In the interest of standardization it is recommended that whenever possible colored lighting be produced by the colors and lamps herein listed.

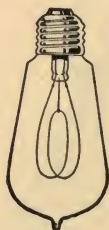
Watts	Style Bulb	Package Quantity	Consignment Classification	Price Each
10	S14	200	III	\$.37
25	S17	120	III	.37
40	S19	120	III	.37

Carbon Lamps

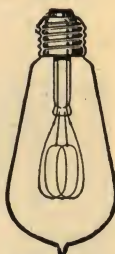
For Standard Lighting Service



5-14 Bulb
10 Watts
110 Volts



S-17 Bulb
20 and 30 Watts
110 Volts



S-19 Bulb
60 Watts
220 Volts

Carbon lamps are all in straight side bulbs fitted with medium screw base.

110 to 125 Volts

Watts	Efficiency W. P. C.	Style Bulb	Over All Length Inches	Package Quantity	PRICE, EACH	Clear	Frosted
10	5	S14	3½	250	\$.22		\$.25
20	4.15	S17	5½	250	.22		.25
30	3.23	S17	5½	250	.22		.25
50	2.97	S19	5½	250	.22		.25
60	2.97	S19	5½	250	.22		.25
120	3	S24½	6	100	.30		.35

220 to 250 Volts

Watts	Efficiency W. P. C.	Style Bulb	Over All Length Inches	Package Quantity	PRICE, EACH	Clear	Frosted
35	4.4	S17	5½	250	\$.24		\$.27
60	3.69	S19	5½	250	.24		.27
120	3.7	S24½	6	100	.35		.40

Standard package discounts and allowances on above lamps can be given on orders for not less than a standard package quantity of one type and size of bulb. For any one type and size of bulb, lamps of different voltages, wattages, efficiencies and finish of bulb may be combined in one package.

Foot-candle Meters



The foot-candle meter is a small, self-contained instrument which measures illumination intensities in foot-candles. This unit is rapidly becoming recognized as the popular as well as the scientific measure of intensity in illumination, which makes the application practical. Technical knowledge is not required in the use of the meter because the adjustment is simple and determinations are readily made.

The foot-candle meter shows where increased intensities must be installed to get the desired results. It should be returned at least once every four months for recalibration.

Size In.	Meter Only	Wt., Lbs. Meter and Case	Shipping Complete	Price Each	Recalibration Charge
8x6x1½	3	4	7	\$25.00	\$1.00

No. 9 Hylo Mazda Lamps

Pull String

Convenient, safe and economical for the hall, sleeping room, bath-room, den, dining room, porch and other similar locations. Both filaments Mazda bulb is same size as regular Mazda lamps.

Standard package, 100; 25 and 40-watt lamps can be assorted to make standard package.

Watts	Candle Power	Voltage	Price Each
25-5	23-1.2	110, 115, 120	\$1.00
40-5	38-1.2	110, 115, 120	1.00
25-5	26-1.2	28-32	1.00
40-5	44-1.2	28-32	1.00



No. 1923 Eveready Flashlight Lamp Assortments



This assortment consists of 100 Eveready Mazda Flashlight Lamps packed in an attractive colored cardboard display case. Will equip most flashlights in popular use. Included in the assortment are 20 of the concentrated filament lamps for the focusing types of flashlights.

No.	No. of Lamps	Voltage	Flashlight in which Used	Price Each
1198	30	2.5	{ 2-cell Tubular 2 " Miner 2 " Searchlight }	\$.15
1197	20	2.3	{ 2 " Baby Tubular 2 " Miner }	.15
1193	30	3.8	{ 3 " Tubular 3 " Miner 3 " Searchlight }	.15
1162	20	3.8	3 " Focusing	.20
Price No. 1923 Assortment of 100 Lamps.....each				\$16.00



Miniature Mazda Lamps For Standard Dry Battery Service



Mazda-19



Mazda-35

Fitted with miniature screw base. Unit package quantity, 10 lamps.

Mazda B Lamps for One-cell Standard Dry Battery

Mazda No.	NOMINAL RATINGS		Bulb	Price Each Clear
	Volts	Amperes		
19	1.25	.60	G-4½	\$.15

Mazda B Lamps for Two Cells of Standard Dry Battery

35	2.4	.80	G-5½	\$.15
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Miniature Mazda Flashlight Lamps



No. 1180

Nos. 1193, 1198
and 1197

No. 1195

For use with the Eveready Tungsten Battery. Can be used for other purposes, but care should be taken that the correct voltage is ordered according to the strength of the battery on which they are to be used. Illustrations are actual size.

Mazda Cat. No.	Mazda No.	Type and Size Bulb	Volts	Std. Pkg.	*Price Each
1180	1	FE-3¾	2.2	10	\$.15
1181	2	FE-3¾	3.3	10	.15
1197	11	G-3½	2.3	10	.15
1162	13	G-3½	3.8	10	.20
1161	14	G-3½	2.5	10	.20
1198	16	G-4½	2.5	10	.15
1193	17	G-4½	3.8	10	.15
1451	19	G-4½	1.25	10	.15
1195	31	G-5½	6.2	10	.15
1117	35	G-5½	2.4	10	.15

*All prices on bulbs subject to change without notice.

Mazda Lamps for Christmas Tree Outfits Decorations, Etc.

C-6
4 and 6 Volts

Fitted with miniature screw base.

Unit packages consist of ten lamps of only one voltage, color, finish, shape, and size of bulb.

Clear or superficially colored lamps may be supplied in red, blue, green, orange and opal colors.

C-6
15 Volts
Price, Each
Clear or
Superficially
Colored

For use	Description	Volts	Type Bulb	Price, Each Clear or Superficially Colored
"	on 3 Cells of Dry Batteries.....	3½	C-4½	\$.15
"	" 8 in Series on 28-32-volt Circuits	4	C-6	.15
"	" on 3 Cells of Storage Battery	6	C-6	.15
"	" 8 in Series on 110-125-volt Circuits	15	C-6	.15

No. 0100 Eveready Counter Lamp Kit Assortments



This attractive convenient counter display lithographed in colors holds 20 lamp kits filled with Eveready Mazda Automobile Lamps, a total of 100 lamps.

One side holds ten packed kits for Ford cars with the following five lamps in each kit: two Mazda Lamps No. 1158 and three Mazda Lamps No. 63. The list value is \$1.50.

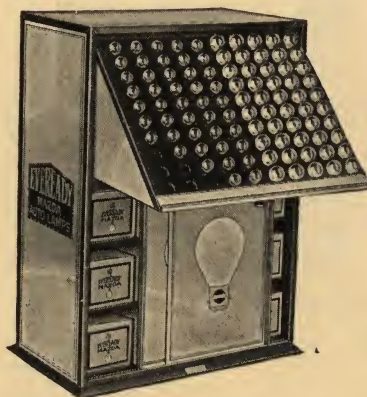
The other side holds ten packed kits for twenty-five other leading makes of cars including Fords which are not wired for double filament headlight lamps. Each kit contains the following five lamps: two Mazda Lamps No. 1129 and three Mazda Lamps No. 63. The list value is \$1.30.

On the back of the container, which is built on the slot machine principle, is printed information showing the cars that may be supplied from the assortment.

There is no charge made for the kits or the container.

Price, No. 0100, 20 Kits, 100 Lamps.....each \$28.00

No. 1723 New and Improved Eveready Auto Lamp Display and Stock Cabinets



cartons of assorted headlight lamps.

The old idea of a lamp stock, a tumbled pile of worn and broken cartons, is now a thing of the past, for here is a cabinet that will help the dealer give the utmost service to lamp customers.

The cabinet is 23 inches high, 16 inches wide, and 9 inches deep and is easily placed on the counter or on the shelf. The special features allow for flexibility of stock and at the same time remind the dealer of the types that require re-ordering.

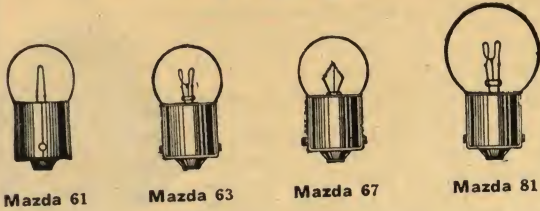
Cabinet contains a total of 220 lamps.

Price, No. 1723 Cabinet, without Lamps.....each \$5.85

The new Eveready Auto Lamp Steel Cabinet is both attractive and practical and has several exclusive features. There are two compartments, upper and lower. The upper tilting compartment, stocks and displays in a unique manner, 100 assorted side, rear and instrument lamps. When closed it is flush with the front of the cabinet. The lower compartment, equipped with shelves and sliding doors, conveniently holds 12 unit



Miniature Mazda Lamps



Mazda B Rear and Instrument Lamps Two in Series

Mazda Lamp No.	Style Bayonet Base	RATINGS ON LAMPS		Style of Bulb	No. in Unit Package	Price Each
		Volts	C. P.			
61	S. C.	3-4	2	G-6	10	\$.20
62	D.C.	3-4	2	G-6	10	.20

Mazda B Rear, Instrument, Step Side and Auxiliary Head Lamps

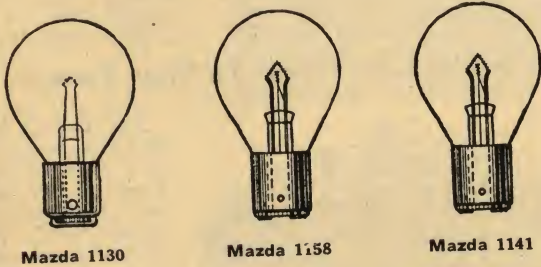
63	S. C.	6-8	2	G-6	10	\$.20
64	D.C.	6-8	2	G-6	10	.20
67	S. C.	12-16	2	G-6	10	.25
68	D.C.	12-16	2	G-6	10	.25

Mazda B Door and Panel Lamps

81	S. C.	6-8	4	G-8	10	\$.25
82	D.C.	6-8	4	G-8	10	.25

Mazda B Side and Auxiliary Head Lamps

89	S. C.	12-16	4	G-8	10	\$.30
90	D.C.	12-16	4	G-8	10	.30



Mazda C Head and Spot Lamps

1129	S. C.	6-8	21	S-11	10	\$.35
1130	D.C.	6-8	21	S-11	10	.35
1141	S. C.	12-16	21	S-11	10	.40
1142	D.C.	12-16	21	S-11	10	.40

Head Lamps for Ford Cars Two in Series, on Magneto Lighting Systems

*1136	D.C.	9	18	S-11	10	\$.35
†1138	D.C.	9	27	S-11	10	.40

*Mazda B. †Mazda C.

Mazda C Head Lamps for Ford Cars Wired for Two Filament Lamps

1158	D.C.	6-8	{ 21 3 }	S-11	10	\$.45
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Mazda C Head Lamps for Ford Cars Two in Series

To be burned two in series on magneto lighting system not equipped with reactance coil.

1160	D.C.	9	21	S-11	10	\$.35
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In ordering lamps specify quantity and Mazda number. The Mazda number must be used for the number assigned, as similar numbers are used for carbon lamps.

Franco Indoor Lamp Coloring



For stage lighting and indoor lamps of all kinds, Franco coloring is satisfactory. Use our clear reducer for toning down the colors if a tint is desired. Moonlight blue, and red are especially fine for stage use. Nothing more exquisite than our white frosting can be secured anywhere. Franco colors are ruby, blue, red, green, amber, moonlight blue, canary, pink, purple, clear reducer and white frosting.

Price, 4-oz. Bottles	each	\$.50
" 1/2-pint "	"	.75
" 1 " "	"	1.35
" 1-quart "	"	2.50

Cefco Weatherproof Lamp Coloring

For outdoor use. Guaranteed the life of the lamp in any weather or climate. Requires three days to dry after dipping. Has stood a year's test outdoors, without injury. Colors are red, blue, green, amber, canary, and white opal.



Color	SIZE OF CAN		
	7 oz.	15 oz.	30 oz.
Red	\$1.50	\$2.50	\$4.50
Blue	1.50	2.50	4.50
Green	1.50	2.50	4.50
Amber	1.50	2.50	4.50
Canary	1.50	2.50	4.50
White Opal	1.50	2.50	4.50

Style B Betts Color Caps

Size S-14 bulb fits standard 1 3/4-inch diameter bulb (4 candlepower), also 2 1/2, 5, 7 1/2 and 10-watt Mazda sign lamps. Size S-17 bulb fits standard 2 1/8-inch diameter bulb (8 candlepower), also 10, 15 and 20-watt Mazda lamps. Size S-19 bulb fits standard 2 3/8-inch diameter bulb (16 candlepower), also 25 and 40-watt Mazda lamps. In ordering specify size of bulb and color of cap.



Color	PRICE, EACH		
	For S-14 Bulbs	For S-17 Bulbs	For S-19 Bulbs
Blue	\$.20	\$.47	\$.50
Green	.20	.47	.50
Amber	.20	.47	.50
Purple	.20	.47	.50
Opal	.20	.47	.50
Ruby	.20	.47	.50

Style A Betts Color Caps

Size S-14 bulb fits standard 1 3/4-inch diameter bulb (4 candle power), also 2 1/2, 5, 7 1/2 and 10-watt Mazda sign lamps. Size S-17 bulb fits standard 2 1/8-inch diameter bulb (8 candle power), also 10, 15 and 20-watt Mazda lamps. Size S-19 bulb fits standard 2 3/8 inch diameter bulb (16 candle power), also 25 and 40-watt Mazda lamps. In ordering specify size of bulb and color of cap.



Color	PRICE, EACH			
	For S-14 Bulbs	For S-17 Bulbs	For S-19 Bulbs	S-30 Opal Only
Blue	\$.19	\$.43	\$.46	\$.48
Green	.19	.43	.46	.48
Amber	.19	.43	.46	.48
Purple	.19	.43	.46	.48
Opal	.19	.43	.46	.48
Ruby	.19	.43	.46	.48



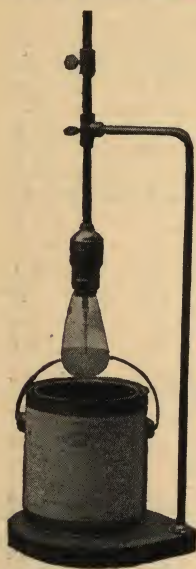
Etch-O-Lite

Etch-O-Lite is applied by dipping the lamp, or other article to be frosted, in the solution. The coating is allowed to remain on the glass for $1\frac{1}{2}$ or 2 minutes, then it is scraped back into the can and the article washed in water and dried. The gloss is removed from the glass leaving a smooth satin-like frosted surface.

Etch-O-Lite will not harm the hands or clothing. It may be shipped by freight, express or parcel post. Containers are guaranteed against leakage for one year.

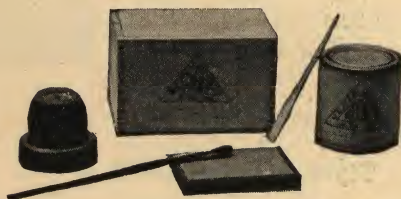
If Etch-O-Lite solution becomes too thick, it may be thinned to proper consistency by adding a small quantity of Etch-O-Lite thinner.

The dipping machine is used to secure uniform results when bowl frosting lamps.



Size Can	Contents Pounds	Price per Can
Small	4	\$6.00
Medium	8	11.60
Large	12	15.60
Price, Thinner, $\frac{1}{2}$ -pint Cans		
..... per can		\$1.00
Price, Dipping Machines, each		3.50

Reed's Etching Outfits



Standard Outfit

The standard rubber stamp outfit for marking lamps will prevent theft by making it impossible to dispose profitably of lamps so marked. It is being successfully used by prominent manufacturers, railroads and office buildings. Full directions with each outfit.



Showing Etched Globe

Special rubber stamp marking outfits for trade marks, patents, dates or other identification of glass articles are made to order. An ordinary ball-pointed steel pen may be used with this ink for writing on glass. Letters are etched into the surface.

One-half pint can Etching Ink makes 10000 to 12000 impressions.

Price, Standard Outfit, including Ink as shown	each	\$14.00
" $\frac{1}{2}$ -pt. Can Ink	"	8.50

Betts Thermo-Wynk Flashers

Made with compensated thermostats, thus not affected in the slightest by temperature changes. The contacts are platinum iridium.

No. 670 is the Baby type only, without the receptacle.

Nos. 650, 651, 660 and 661 are furnished with the receptacle as shown. This arrangement saves labor in connecting. Adapted to small window transparencies. For 6, 8, 32, 220 or 250 volts add 30% to prices.



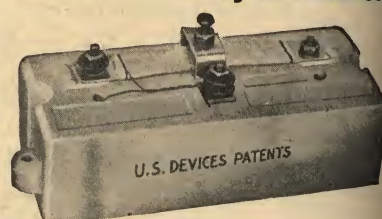
No. 660-661

Cat. No.	Volts	Watts	Price Each
670	110-125	60	\$1.00
650	110-125	60	1.20
651	110-125	100	1.70
660	110-125	60	1.30
661	110-125	100	1.80

Nos. 671 to 676 Betts Thermo-Wynk Flashers

These types are all constructed with compensated thermostats, and are thus unaffected by temperature changes. The contacts are platinum iridium. Ratings are ultra-conservative. For 6, 8, 32, 220 or 250 volts add 30% to prices.

Flashers of 330 watts capacity and over are equipped with condensers to minimize arcing.



Cat. No.	Volts	Watts	Price Each	Cat. No.	Volts	Watts	Price Each
671	110-125	110	\$2.10	674	110-125	440	\$7.50
672	110-125	220	2.90	675	110-125	550	9.25
673	110-125	330	6.50	676	110-125	660	10.50

Betts Thermo-Wynk Tu-Way Flashers



The Tu-Way will flash two lamps or two circuits of lamps alternately, one set remaining lighted while the other is out, and so on. The action is positive.

Wattage capacity on 220 to 250 volts is reduced 50 per cent, and on voltage less than 100, the capacity is also reduced in proportion to the decrease in voltage.

Cat. No.	Volts	Watts	Price Each	Cat. No.	Volts	Watts	Price Each
692	110-125	220	\$10.90	694	110-125	440	\$14.50
693	110-125	330	12.35	695	110-125	550	15.95

For 6, 8, 32, 220 or 250 volts add 30 per cent to prices.

Nos. 600 and 601 Betts Wynk-A-Lyte Flashing Plugs



Can be adjusted without removing from socket. Arranged to compensate for temperature changes.

Price, No. 600, 60 Watts	each	\$1.50
" 601, 100 "	"	2.00

Matthews Hold-fast Lamp Changers



Price, No. 2 for 15-60-watt Mazda Lamps	each	\$12.00
" 3 " 60-150-watt Mazda Lamps, Up to Five Inches in Diameter	each	14.00

We are New England Distributors for

I V A N H O E

METAL REFLECTORS AND FITTINGS

for Industrial Illumination



To utilize most effectively the light from bare Mazda Lamps—to direct light where it is needed, improving its quality by diffusion, reducing glare and softening shadows—that is the IDEA back of the Ivanhoe slogan—"Service to Lamps."

These results are secured by the use of scientifically designed reflectors installed in accordance with approved engineering practice, with the definite idea of improving working conditions so as to increase production, decrease spoilage, and raise the standard of quality of the goods manufactured.

We maintain a highly trained staff of industrial lighting engineers who will gladly co-operate with you in the solution of any lighting problems you may be called upon to consider.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Ivanhoe Metal Reflectors

Where and How to Use Different Types of Reflectors

In order to meet all the requirements of industrial plants, the Ivanhoe line offers several types of standard reflectors for each class of lighting, namely: General, Overhead, Group and Local.

For General, Overhead and Group Lighting: RLM standard dome reflectors, the Glassteel Diffuser, Standard Bowl Type Reflectors, Glass-top Reflectors and Vapor-proof Reflectors.

For Local Lighting: Small Angle Type Reflectors, Small Bowl Type Reflectors and Special Service Reflectors.



The RLM Standard Dome

These reflectors are generally applicable to any industries which may be classified as rough manufacturing, medium manufacturing, or fine manufacturing. With them a great deal of light is directed at the higher angles, and they are, therefore, especially suitable for operations where the work is performed on vertical surfaces. The depth of the standard dome is such that ample protection from the glare of the lamp filament is provided when the reflector is used on the average mounting-height. However, best practice requires that bowl-enameled lamps be used in order to conceal the lamp filament.

The Glassteel Diffuser

The Glassteel Diffuser, designed for high wattage Mazda C lamps, is a combination consisting of an extra large dome reflector and an enclosing globe of light-density diffusing glass that entirely surrounds the lamp. The large reflector and diffusing globe greatly reduce brightness and afford excellent diffusion. The top of the reflector is perforated, through which light passes upward so that the entire work-room may be lighted. The enclosing globe permits the use of the high wattage lamps necessary for high intensities with a minimum of glare. All these features combine to closely simulate the intensities, diffusion, soft shadows, general lighting and ideal qualities so desirable in daylight illumination.



The Standard Bowl Reflectors

Rules for the installation of the Bowl Type Reflector are closely related to those given for the Dome Type in a preceding paragraph, but with this type the lamp filament is shielded at a lower angle, and they are sometimes preferable to dome reflectors for general overhead lighting. For the same reason they are especially suitable for installations where reflectors must be mounted low in order that operators will not be annoyed by excessive glare. The distribution of light is rather strongly downward. Bowl reflectors are also suitable, in the smaller sizes, for local lighting where a high intensity is desired over a small area.

Glass Top Reflectors

This type is for use in factories where the general appearance of the workroom is considered essential to good workmanship and contentment of employees.

The popular Dome Type is available in this new design. This standard form is used, with a small portion of the top cut away. The opening is covered with a light density, diffusing glass cover permitting a small amount of light (from 8 to 10 per cent) to pass upward, in order that the ceiling and top walls may be illuminated to a desirable brightness.



Angle Type Reflectors

They are particularly desirable in the large sizes in such industries as erecting shops, machine shops where traveling cranes are used overhead, and similar classes of work. In such installations the overhead lighting often comes from reflectors mounted rather high, and it is usually necessary to build up the illumination on the working plan from the side. In such cases Angle Type Reflectors are mounted along the side walls below the crane rails, at a suitable mounting-height, the distribution being such that the light is directed away from the wall, and toward the center of the room. Both the horizontal and vertical illumination is built up, and light is received upon the work from each side, as well as directly overhead. This is an advantage in softening shadows. In the smaller sizes this type is good for local lighting, where outlets must be located close to the work and it is desirable to screen the lamps from the operator.

Vapor-proof Reflectors

Vapor-proof fittings afford a safe means of providing illumination for such industries as powder plants, flour mills, oil refineries and similar industries where it is essential that electrical connection and lamps be protected from acid fumes or inflammable dust or vapors.



Bowl Reflectors for Mill Type Lamps

Where the lamp must be located near the work and is subject to excessive vibration or abuse in handling, the Mazda Mill Type is the most serviceable.



There are several types of Ivanhoe reflectors available for these lamps, including the Bowl, Angle and Dome Types. These reflectors are small in diameter and deep in order to conceal and protect the lamp. A special small reflector is made for use on power machines where it is located close to but must not conceal the work.

Special Service Reflectors

There are some requirements which can only be met with specially designed reflectors. Tennis courts, sewing machines, mail cases and other localized operations all require special equipment.





Illumination Design

BY PERMISSION OF ENGINEERING DEPT. NATIONAL LAMP WORKS
OF G. E. CO., CLEVELAND, OHIO

Calculations for Lighting Installations

In Table 3 is indicated the lamp wattage which must be supplied per square foot of floor area to produce standard intensities of illumination for various classes of service, when modern reflecting and diffusing equipments of efficient design are used. While not necessary for the calculation of a lighting installation as outlined below there are included in the table these standard values of illumination intensity expressed in foot-candles. They are given as a reference for those who have a foot-candle meter, a small portable instrument for measuring the intensity of illumination of any point, and are therefore in a position to check up the lighting in various interiors. These values will also prove useful to any whose fuller knowledge of illumination design enables them to calculate accurately the exact results for specific units.

For each location two ranges of values are given under "Watts per Square Foot." The proper value for a given interior will generally fall between these two sets of figures. It will depend upon the proportions of the room to be lighted. Where the ceiling is very high compared with the width of the room, there is a large amount of wall area to absorb light and a higher value of watts per square foot will be required than for a wide, low room.

The values for large rooms, Table 3, apply where the width is 4 to 5 times the average height of the ceiling. Small rooms are assumed as those in which the width is not more than $1\frac{1}{2}$ times the ceiling height. Rooms of intermediate proportions will require correspondingly corrected values.

To plan a system of general illumination, proceed as follows:

1—Select reflecting or diffusing equipment suited to the class of installation, having regard for total light output, the distribution of light on surfaces in various planes, glare directly from the units or reflected from polished surfaces, the density of shadows cast and the maintenance required. In Table 1 the more common types of lighting unit are analyzed with reference to these fundamental considerations.

2—Determine from Table 3 the correct value of lamp wattage per square foot of floor area for a room of the given proportions and class of work carried on.

3—Multiply the total area of the room in square feet by the selected value of watts per square foot. This will give the total lamp wattage required.

4—Determine from Table 2 the proper spacing distance for the permissible or desired mounting height, (note that mounting height is the vertical distance between working surfaces and lighting sources).

5—With approximately this spacing, lay out a symmetrical arrangement of outlets and determine the total number required.

6—Divide the total wattage (see 3 above) by the total number of outlets. The result will indicate the approximate wattage of each lamp. From this it will be evident what standard size, 75-watt, 100-watt, 150-watt, etc., should be selected. When in doubt install the larger size of lamp rather than the smaller.

The required value of watts per square foot even for a given intensity and size of room will still be subject to variation, depending upon the reflecting properties of the ceilings, walls and work surfaces, the efficiency of the reflectors and diffusing devices, the size of lamp employed and the character of maintenance service provided. The more decorative equipments are usually less efficient. Somewhat lower wattages than those indicated may be sufficient where the ceiling and walls are very light in color, where the most efficient reflectors of the types employed in the respective classifications are used, the largest sizes of lamps employed, and the lighting units kept free from dust. Likewise, somewhat higher values than those called for may be required where ceilings and surrounding surfaces are very dark, inefficient accessories are supplied, the smallest sizes of Mazda C lamps are employed, or the lighting units are cleaned only at long intervals.

A Guide to the Selection of Reflecting Equipment

It is important that good reflecting equipment be installed. The luminaires shown in these charts illustrate certain types. For example, No. 15 and No. 16 show units of a general type of which there are a great variety made by various manufacturers. Of two or more units of the same type the choice should be governed by considerations of brightness, diffusion, absorption, appearance, and cost.

Illumination on Horizontal Surfaces

Illumination on horizontal surfaces is a prime requisite in offices, drafting rooms and those shops where the problem is to provide the best illumination for sustained vision of flat surfaces on the horizontal or slightly oblique planes in which papers, books and other flat objects are usually examined.



Illumination on Vertical Surfaces



Illumination on vertical surfaces of work or machine parts is fully as important as the lighting of the surface in the horizontal plane. In a consideration of the amount of light necessary for factory illumination, the criterion must be the intensity on all working surfaces, vertical, horizontal, etc.

Favorable Appearance of Lighted Room

Favorable appearance of lighted room refers only to the general or casual effect produced by the complete system and is not intended to rate the unit as to satisfaction from the standpoint of good vision or freedom from eye fatigue.



Direct Glare



This is the most frequent and serious cause of bad lighting. It results among other things from unshaded or inadequately shaded light sources located within the field of vision, or from too great contrast between the bright light source and a dark background or adjacent surfaces.

Reflected Glare

Reflected glare from polished working surfaces is particularly annoying because the eyes are by nature especially sensitive to light rays from below. The harmful effects of this specular reflection can be minimized.



Shadows



Shadows, differences in brightness of surfaces, are essential in observing objects in their three dimensions but are of little value in the observation of flat surfaces. Where shadows are desirable, they should be soft and luminous, not so sharp and dense as to confuse the object with its shadow.

Maintenance

Maintenance depends upon contour of reflector, construction of fixture and condition of ceiling. The rating is based upon the likelihood of breakage, the labor involved in maintaining the units at comparable degrees of efficiency and indication given of need of cleaning.





A Guide to the Selection of Reflecting Equipment








Choice of Reflecting Equipment

Various lighting units are rated in accordance with seven fundamentals, illustrated on following page. The importance of these criteria is different for different classes of work. It must be emphasized that relative importance of various criteria should be carefully weighed with respect to the particular problem at hand. In an office the criteria would rank in importance: (1) direct glare; (2) reflected glare; (3) shadows; (4) efficiency based upon illumination of horizontal; (5) maintenance; (6) vertical illumination. Where lamps are to be hung above a crane in a foundry, the order of importance would be: (1) efficiency based upon illumination on horizontal; (2) vertical illumination; (3) maintenance; (4) shadows; (5) direct glare; (6) reflected glare.

In chart best rating given is A+; D, the lowest, indicates that an installation of units so rated in any particular, will very likely prove unsatisfactory in an installation where this factor is important. Ratings B and C while not equal to A, are decidedly superior to rating D. Rating B, C+ or C in certain respects does not disqualify a unit provided that in the essential requirements of a given location, the unit is rated A or B+.

Table No. 1

Direct Lighting Porcelain Enamel Reflectors








LIGHTING UNIT		EFFICIENCY BASED UPON ILLUMINATION ON HORIZONTAL OR VERTICAL	FAVORABLE APPEARANCE OF LIGHTED ROOM	DIRECT GLARE	REFLECTED GLARE	SHADOWS	MAINTENANCE	
1	D. L. H. BOMB  Clear Lamp 90° to 180°-45°	A+	B+	C+	C	D	C+	A+
2	D. L. H. BOMB  Semi-Enclosed Lamp 90° to 180°-45°	A-	B	B+	B	B+	A-	
3	GLAZED REFLECTOR  90° to 180°-45°	B+	B	A-	A-	B+	A-	B+
4	DEEP BOWL  Clear Lamp 90° to 180°-45°	B+	B-	C	C+	D	C	A
5	DEEP BOWL  Semi-Enclosed Lamp 90° to 180°-45°	B	C+	C	B	C+	C+	B+
6	FLAT CONE  Shaded Band 90° to 180°-15°	B	C+	C+	C+	D	C	B+
7	FLAT CONE  Clear Lamp 90° to 180°-15°	B	B	C	D	D	C	A+

Direct Lighting Open Glass Reflectors

8 Clear Lamp 90° to 180°-45°	B+	B	B+	C+	D	B-	B
9 Semi-enclosed Lamp 90° to 180°-45°	B	B-	A-	B-	B-	B+	B-
10 Clear Lamp 90° to 180°-45°	A+	B+	B+	B	D	C+	A-
11 Semi-enclosed Lamp 90° to 180°-45°	B+	B-	A-	B+	B-	B	B
12 Clear Lamp 90° to 180°-45°	A	B	C	C+	D	C	A-
13 Semi-enclosed Lamp 90° to 180°-45°	B	C+	C	B-	C	C+	B-
14 Clear Lamp 90° to 180°-45°	A+	A-	B+	C+	D	C+	B-

A Guide to the Selection of Reflecting Equipment

Table No. 1-Continued
Direct Lighting Enclosing and Semi-enclosing Units

LIGHTING UNIT		EFFICIENCY BASED UPON ILLUMINATION ON HORIZONTAL	EFFICIENCY BASED UPON ILLUMINATION ON VERTICAL	FAVORABLE APPEARANCE OF LIGHTED ROOM	DIRECT GLARE	REFLECTED GLARE	SHADOWS	MAINTENANCE
15	REFLECTING GLASS Heml-Globe  90° to 180°-45°	B-	B-	A	B-	B	B+	B+
16	ONE-PIECE WALL Fluorescent Reflecting Type  90° to 180°-45°	B	B	A	B	B	A-	A-
17	PNEUMATIC ENCLOSURE  90° to 180°-45°	B+	B	A	B	B-	B+	B
18	SEMI-ENCLOSURE Vertical R-Reflector  90° to 180°-45°	B	B	A	B	B	B+	B-
19	SEMI-ENCLOSURE Cupola Reflector  90° to 180°-45°	B	B	A	A	A-	A-	C+
20	TWO-PIECE GLASS Optical Field and Crown Bowl  90° to 180°-45°	B	B	A	B+	B+	A-	B
21	ONE-PIECE GLASS Enamelled Cup and Bowl  90° to 180°-45°	B	B	A	B+	B	A-	A-

Semi-indirect and Indirect Lighting Units

22 90° to 180°-45°	B-	C+	A	B+	B+	A-	C
23 90° to 180°-45°	C+	C	A	A+	A	A+	C
24 90° to 180°-45°	C+	C	A	A+	A	A+	C
25 90° to 180°-45°	B-	C+	A	A-	A-	A-	B
26 90° to 180°-45°	C+	C	A	A+	A	A	B
27 90° to 180°-45°	C+	C	B+	A+	A	A+	C
28 90° to 180°-45°	C	C	B+	A+	A	A+	C

*For luminous bowl type, Rate A.

Table No. 2
Spacing and Mounting Height for Lighting Units in Feet

Mounting Height of Unit	Permissible Distance between Outlets	PERMISSIBLE DISTANCE BETWEEN OUTLETS AND SIDE WALLS		
		In Usual Location Where Aisles and Storage are Next to Wall	In Offices or Where Work Benches are Next to Wall	†Suspension Distance Indirect Units, Ceiling to Top of Reflector
4	6	3	2	1
5	7 1/2	3 1/2	2 1/2	1 1/4
6	9	4 1/2	3	1 1/2
7	10 1/2	5	3 1/2	1 3/4
8	12	6	4	2
9	13 1/2	6 1/2	4 1/2	2 1/4
10	15	7 1/2	5	2 1/2
11	16 1/2	8	5 1/2	2 3/4
12	18	9	6	3
13	19 1/2	9 1/2	6 1/2	3 1/4
14	21	10 1/2	7	3 1/2
15	22 1/2	11	7 1/2	3 3/4
16	24	12	8	4
18	27	13 1/2	9	4 1/2
20	30	15	10	5
22	33	16 1/2	11	5 1/2
24	36	18	12	6
27	40 1/2	20	13 1/2	6 3/4
30	45	22 1/2	15	7 1/2

*Note permissible distance between outlets depends upon height of light source above work. In offices, work plane corresponds to desk tops, usually 2 1/2 feet above floor; in factories, work plane will often be 3 1/2 or 4 feet above floor. Note, in case of semi and totally indirect lighting units, figures in this column are height of ceiling above work.

†Based on best distribution of light and efficiency of utilization for standard units. In some installations other considerations may require a different suspension distance.



Present Standards of Illumination

Table No. 3

This table is based upon Mazda C lamps with reflecting or diffusing media in the sizes and of the character, respectively, most often used in modern practice.

The values given are for average, service conditions during the life of the lamps and include allowance for depreciation due to moderate collections of dust, etc.

		†WATTS, PER Sq. Ft.†		
	Foot-Candles	Large Rm.	Small Rm.	
Auditorium, Church.....	2-4	.4 - .8	.6 - 1.2	
Armory, Public Hall.....	3-6	.6 - 1.2	.9 - 1.8	
School, Classroom, Study Room, Library.....	5-10	1.25-2.5	1.75-3.5	
Store				
Show Window.....	10-70	‡	‡	
First Floor Department, Shop on Bright Street or Corner....	8-12	2. - 3	2.4-3.6	
Other Clothing, Dry Goods, Haberdashery, Millinery, Jew- elry, Etc.....	5-10	1.25-2.5	1.75-3.5	
Other Drug, Grocery, Meat, Bakery, Book, Florist, Furni- ture, Etc.....	4- 8	1. - 2	1.4-2.8	
Office				
Private, General.....	6-12	1.2-3	1.8-3.6	
Drafting Room.....	10-20	2.5-4.7	3.5-6.5	
Industrial*				
For Intermediate and Auxiliary Spaces in Interiors: Aisles, Passageways, Stairways, Etc..	1- 2	.15- .3	.2- .4	
For Handling Coarse Material and Work Involving no Dis- crimination of Detail.....	2- 4	.3 - .6	.4 - .8	
For Rough Manufacturing Oper- ations, such as: Rough Assem- bling, Rough Forging, Rough Woodworking, Rough Bench- work, Ice Making, Etc.....	3- 6	.45-.9	.6-1.2	
For Medium Manufacturing Oper- ations, such as: Medium Ma- chine Work, Meat Packing, To- bacco Manufacturing, Laundries, Etc.....	5-10	.75-1.5	1. - 2	
For Fine Manufacturing Oper- ations, such as: Fine Assembling, Fine Pattern Making, Fine Machining on Metals, Knitting, Office Work, Etc.....	6-12	.9-1.8	2 - 2.4	
For Extra Fine Manufacturing Operations, such as: Watch and Jewelry Making, Engraving Typesetting, Machine Stitch- ing on Shoes, Cutting and Sew- ing Dark Garments, Etc.....	10-50	1.5 ...	2.0 ...	
Building Exteriors.....	3-20	‡	‡	

*It must be remembered that, other things being equal, work on dark goods requires a higher illumination than work on light goods.

†The values for watts per square foot may be reduced slightly if the walls and ceilings are very light in color, if the most efficient reflectors or diffusers of the type commonly employed in the several classifications are used, if the maintenance and cleaning service is the best, or if larger sizes of lamps are employed. On the other hand, these values may be increased slightly if the walls, ceiling and surroundings are dark, if inefficient reflecting and diffusing equipment is used or if smaller sizes of lamps are employed.

‡The lighting of show windows and of building exteriors presents special problems. Manufacturers of reflectors and projectors for these fields furnish information as to the proper application of their product.

Ivanhoe Steel Reflectors



B-Heel
Extension

Construction

Made with three distinct types of extension to conform to different systems of wiring and installing.

The B-Heel Type

The B-Heel Type provides a convenient method of attaching the reflector to a separate holder. When this reflector is used with an Ivanhoe Socket Holder, or

any standard Form O holder, it is possible to complete all wiring before hanging the reflector.

The D-Type

The D-Type is furnished with a brass clip ring reinforced by the D-clamp strap, or holder, for attaching directly to brass shell sockets.

The R-Type

This extension contains a porcelain socket held in place by a locknut at the top of the extension. The socket is designed to fit a 1/2-inch conduit.

Finishes

Made of open-hearth steel with three standard finishes: porcelain enamel, aluminum, and paint enamel. The porcelain-enamelled reflector will stand up under dirt, moisture, and acid fumes without any deterioration of the reflecting service. Reflectors finished with aluminum or paint can be used successfully in those industries where conditions are generally clean.

PORCELAIN ENAMEL.—Applied to inside of the reflector in three coats. First is a binding coat, which is covered by two coats of white porcelain enamel. The outside of the reflector is treated with the same binding coat, and one application of dark green porcelain enamel

PAINT ENAMEL.—The inside of the reflector is covered with a binding coat, and two coats of glossy white paint enamel. A glossy green paint enamel is applied to the outer surface, and baked on to insure a tough and durable finish. The color is permanent.

Explanation of Catalogue Numbers

Where standard reflectors are listed, the catalogue numbers are made up of letters and numerals as follows:

1. Type of extension:
B, D or R.

2. Kind of finish: E
(for porcelain enamel), P
(for paint enamel).

3. Distribution of
light: B (for bowl dis-
tribution), D (for dis-
tributing distribution),
DD (for deep distributing
distribution), L (for angle
distribution), W (for wide
distribution).

4. The size of Mazda
lamp recommended for
best results is indicated
by the numerals.

EXAMPLE.—The RLM dome reflector with B-Heel type fitter and for a 75-watt lamp would be BEDD-75—the first letter denoting the fitter; the second, the finish, the third, the distribution; and the numerals, the lamp size. Reflectors for special service are identified by numbers.



Holder
Cover
Raised in
Order to
Wire and
Clamp it to
B-Heel

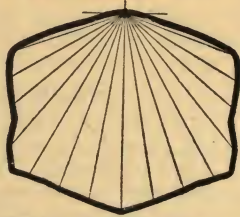


To Wire R-Type Reflectors,
Loosen the Locknut at the Top
of the Extension, and Raise the
Reflector on the Pipe



Ivanhoe RLM Standard Dome Reflectors

For 50 to 1000-watt Mazda C Lamps



Characteristic Distribution

These reflectors are recommended as the highest standard distributing type.

Porcelain enameled, green outside, and white inside. Should be spaced not to exceed one and two-thirds times height above the works.

In ordering, specify the catalogue number.

Ivanhoe RLM Standard Dome Reflectors

Standard B-heel Type—For Separable Holders

Porcelain Enameled, Green Outside, White Inside



The standard B-heel Reflector can be used with Ivanhoe Holders or with any standard Form O holder.

Sizes up to and including the 200-watt size take 2¼-inch holders.

Watt sizes 300, 500 and 1000 take 3¼-inch holders.

The RLM standard designation is as follows: Dome-50, takes 50-watt Mazda C lamp; Dome-75, takes 75-watt Mazda C lamp; Dome-100, takes 100, 150-watt lamp; Dome-200, takes 200-watt lamp; Dome-500, takes 300 and 500-watt lamps; Dome-1000, takes 750 and 1000-watt lamps.

Cat. No.	RLM Standard Designation	Mazda C Lamp Watts	DIMEN., IN. Diam. Depth	Std. Wt. Lbs.	Price Pkg. Std. Pkg. Each
BEDD-50	Dome-50	50	12½ 5	10 30	\$1.80
BEDD-75	" 75	75	12½ 5½	10 30	1.90
BEDD-100	" 100	100, 150	14½ 6½	10 35	2.20
BEDD-200	" 200	200	16½ 7¾	10 40	2.60
BEDD-500	" 500	300, 500	18½ 7¾	5 30	3.60
BEDD-1000	" 1000	750, 1000	21 10¾	5 60	5.30

Ivanhoe RLM Standard Dome Reflectors

Weatherproof—With R Type Holders

Porcelain Enameled,
Green Outside,
White Inside

Solid Top Containing Porcelain Socket

The R extension makes solid top units of the reflector to which it is fitted. It is electrically welded to reflector, making a solid, one-piece unit.



Cat. No.	RLM Standard Designation	Mazda C Lamp Watts	DIMEN., IN. Diam. Depth	Std. Wt. Lbs.	Price Pkg. Std. Pkg. Each
REDD-50	Dome-75	75	12½ 7¾	10 30	\$3.20
REDD-75	" 100	100, 150	12½ 8¼	10 30	3.30
REDD-100	" 200	200	14½ 9¾	5 20	3.50
REDD-200	" 500	300, 500	16½ 10½	5 30	4.50

Ivanhoe Standard Steel Bowl Reflectors

For 40 to 1000-watt Mazda Lamps



Characteristic Distribution

These bowl reflectors replace the two Ivanhoe lines formerly listed as extensive enamel and intensive enamel. Porcelain enameled, green outside and white inside, and their bowl shape furnishes an effective shield against the glare of the lamp.

Distribution of light is rather strongly downward, and for this reason the Bowl Type is preferable for installations where reflectors must be mounted at a considerable height to clear cranes, or to conform to the construction of the building.

Should be spaced a distance apart approximately one and two-thirds times the mounting height above the work for either general or group lighting, and when used for local light, must of course, be located with reference to the work.

Ivanhoe Standard Steel Bowl Reflectors

Standard B-heel Type—For Separable Holders

Porcelain Enameled, Green Outside,
White Inside

For use with Ivanhoe Holders or with any standard Form O holder.

Sizes up to and including the 200-watt size take 2¼-inch holders; 300, 500 and 1000-watt sizes take 3¼-inch holders.



Cat. No.	Mazda Lamp Watts	DIMEN., IN. Diam. Depth	Std. Wt. Lbs.	Price Pkg. Std. Pkg. Each
BEB-50	40, 50, 60	7½ 5	10 15	\$1.50
BEB-75	75	8½ 6	10 15	1.65
BEB-100	100, 150	9½ 7¼	10 20	1.80
BEB-200	200	10½ 8¾	10 25	2.20
BEB-500	300, 500	12½ 8½	10 30	3.60
BEB-1000	750, 1000	15¾ 11½	5 30	4.40

Ivanhoe Standard Steel Bowl Reflectors

Weatherproof—With R Type Holders

Porcelain Enameled, Green Outside,
White Inside

Solid Top Containing Porcelain Socket

The R extension makes solid top units of the reflector to which it is fitted.

The extension is electrically welded to the reflector, making a solid one-piece unit.



Cat. No.	Mazda Lamp Watts	DIMEN., IN. Diam. Depth	Std. Wt. Lbs.	Price Pkg. Std. Pkg. Each
REB-75	50, 60, 75	8½ 8¾	10 30	\$3.10
REB-100	100, 150	9½ 10	5 20	3.30
REB-200	200	10½ 11½	5 25	3.80

Ivanhoe Steel Angle Type Reflectors

For 25 to 100-watt Mazda Lamps



Characteristic Distribution

This angle reflector should be used in industrial plants where overhead lighting is impractical, requiring the outlets to be placed along the wall.

The weatherproof, easy-wiring R Type is especially adapted to bill board lighting.

Porcelain-enameled, green outside and white inside. This finish is applied to the inside of the reflector in three coats. The first is a binding coat. The outside is treated with the same coat and covered with one application of dark green porcelain enamel.



Ivanhoe Steel Angle Type Reflectors

Standard B-heel Type—For Separable Holders

Porcelain Enameled, Green Outside, White Inside

For use with Ivanhoe Holders or with any standard Form 0 holder.

Sizes up to and including the 200-watt size take $2\frac{1}{4}$ -inch holders; 300, 500 and 1000-watt sizes take $3\frac{1}{4}$ -inch holders.



Cat. No.	Mazda Lamp Watts	DIMEN., IN. Diam. Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BEL-50	15, 25, 40, 50	7 5 $\frac{1}{2}$	10	15	\$1.50
BEL-75	50, 60, 75	8 $\frac{1}{4}$ 6 $\frac{3}{4}$	10	20	1.90
BEL-100	100, 150, 200	10 $\frac{1}{2}$ 9 $\frac{1}{4}$	10	25	2.50
BEL-500	300, 500	12 $\frac{1}{2}$ 11 $\frac{3}{4}$	5	20	4.40
BEL-1000	750, 1000	15 $\frac{3}{4}$ 15 $\frac{3}{4}$	5	30	6.50

Ivanhoe Steel Angle Type Reflectors

Weatherproof—With R Type Holders

Porcelain Enameled, Green Outside, White Inside

Solid Top Containing Porcelain Socket

The R extension makes solid top units of the reflector.

Extension is electrically welded to reflector, making a solid, one-piece unit. Covered with porcelain enamel without joints or seams.



Cat. No.	Mazda Lamp Watts	DIMEN., IN. Diam. Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
REL-75	50, 60, 75	8 $\frac{1}{4}$ 9 $\frac{1}{2}$	10	20	\$3.20
REL-100	100, 150, 200	10 $\frac{1}{2}$ 12	10	35	4.20
REL-500	300, 500	12 $\frac{1}{2}$ 16	5	30	6.20

Ivanhoe Steel Wide Type Reflectors

For Outdoor Lighting
For 75 to 100-watt Mazda C Lamps



Characteristic Distribution

These reflectors are porcelain-enameled, green outside and white inside. They are weather-proof, and the solid-top extension provides for easy wiring.

The wide type should be used only for outdoor lighting, as in yards, and on platforms, where a wide distribution of light is required, and it is not important that the lamps be screened. Reflectors are furnished in the R style only with a solid top of rigid construction, containing a porcelain socket. For yard lighting they are usually

spaced from two and one half to five times their mounting height. They should not be used indoors.

Reflectors with R Type Holders

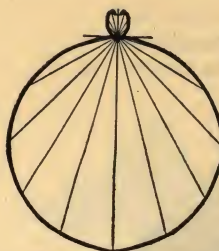
Solid Top Containing Medium Porcelain Socket

Cat. No.	Mazda C Lamp Watts	DIMEN., IN. Length Over All Max. Diam.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
REW-75	75	14 5 $\frac{3}{4}$	10	30	\$3.45
REW-100	100, 150	16 5 $\frac{1}{2}$	5	25	3.80
REW-200	200	18 6 $\frac{1}{8}$	5	30	4.65

Solid Top Containing Mogul Porcelain Socket

Cat. No.	Mazda C Lamp Watts	DIMEN., IN. Length Over All Max. Diam.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
REW-500	300, 400, 500	18 7 $\frac{1}{2}$	5	35	\$5.50

Ivanhoe Glassteel Diffusers



The Glassteel Diffuser consists of an inner glass globe which totally diffuses the light, and a white porcelain-enameled reflector which directs most of the light downward. Apertures in the top of the reflector allow some light to pass upward.

It efficiently produces diffused illumination for those industries where the best quality of illumination is required. Should be spaced one and one-

half times the height above the working plane.

For those locations where light above the unit is not required, but where the other features of this design are essential, the Glassteel Unit will be supplied without the openings in the top. Then the units should be ordered thus: No. 952 without top openings.

Standard B-heel Type.



Complete Unit, Glass and Reflectors

For Medium Base Sockets

Cat. No.	Mazda Lamp Watts	DIMEN., IN. Diam. Fitter Diam. Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
952	100, 150, 200	2 $\frac{1}{4}$ 18 9	4	40	\$7.05
953	300, 500	3 $\frac{1}{4}$ 21 10	4	50	9.40

Extra Glass Globes for Glassteel Diffusers

Cat. No.	For Unit	Diam. of Glass In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
5468x10	Genco No. 952	10	4	15	\$2.30
5468x12	" " 953	12	4	15	3.60

Ivanhoe Glass Top Dome Type Reflectors

For 75 to 200-watt Mazda C Lamps



Characteristic Distribution

Made only in the standard dome type. Contour of the glass top reflector conforms to that of the RLM standard dome reflectors. It is porcelain enameled, green outside and white inside. The metal part is one compact piece, the form and heel being connected by substantial legs.

A glass section of good quality opal glass of light density and excellent diffusing properties permits a portion of the light to be transmitted above the hanging height of the reflector. The glass section is firmly held in place by metal clips.

The light transmitted by the glass section is sufficient to serve the definite purpose of relieving the contrast between the areas below and

above the plane of the lighting units as well as lighting any equipment mounted above the level of the reflectors.

Should be spaced not to exceed one and two-thirds their height above the work.

Cat. No.	Mazda C Lamp Watts	DIMEN., IN. Diam. Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BEDD- 75 G.T.	75	12 $\frac{1}{8}$ 5 $\frac{1}{2}$	10	25	\$2.90
BEDD-100 G.T.	100, 150	14 $\frac{1}{8}$ 6 $\frac{1}{2}$	10	30	3.15
BEDD-200 G.T.	200	16 $\frac{3}{8}$ 7 $\frac{3}{4}$	10	35	3.65

Extra Glass Tops for Glass Top Reflectors

Dimensions same for any size glass top reflector. Standard package, 40. Shipping weight, 50 pounds.

Price, No. 6062..... each \$.85



Ivanhoe Paint-enameled Steel Reflectors

Shallow Dome-distributing Type
for 20 to 150-watt Mazda Lamps



Paint-enameled reflector, green outside and white inside.

It is applicable for service with the smaller Mazda lamps where low price is an important consideration.

May be spaced from two to two and one-half times the mounting height for rough work, but for uniform illumination this ratio should not exceed one and two-third.

Standard B-heel Type Reflectors with Separable Holders

For use with any Ivanhoe Holder or with any standard Form O holder.

Cat. No.	Mazda Lamp Watts	DIMEN., In. Diam.	Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
BPD-25	25, 50	8	3	10	12	\$.70
BPD-50	25, 40, 50	10 1/4	3 5/8	10	15	.80
BPD-75	50, 60, 75	12 1/4	4 1/4	10	25	1.00
BPD-100	100, 150, 200	15 1/4	6 1/4	10	30	1.25

Ivanhoe Steel Reflectors for Vapor-proof Fittings

Porcelain Enameled
For 25 to 200-watt Mazda Lamps



No. 930

For use in places where the lamp base and socket must be protected from acid fumes or moisture. Should be spaced one and two-thirds times the mounting height.

Reflector fits various standard conduit fittings.

It is attached to

the fittings with the standard reflector holders available

Ample clearance is allowed in the extension for the globe and guard as listed for those fittings.

Reflector is porcelain enameled, green outside and white inside, and the complete unit in case is vapor-proof



Nos. 931-933

For Type V Fittings

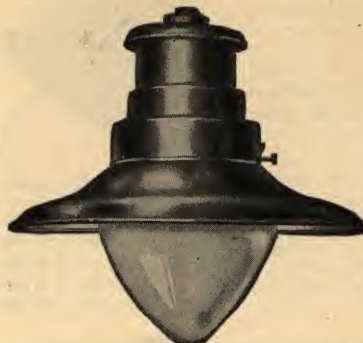
Cat. No.	Mazda Lamp Watts	DIMEN., In. Diam.	Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
930	60	12	4 7/8	10	25	\$2.40

For Type VH Fittings

Cat. No.	Mazda Lamp Watts	DIMEN., In. Diam.	Depth	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
931	75	12	5 5/8	10	25	\$2.80
932	100-150	14	6 3/4	10	30	3.10
933	200	16 1/4	8	5	25	3.45

Ivanhoe Mazda C Enclosing Units for Mazda C Lamps

Porcelain-enameled, with Reflectors



Nos. 804, 806 and 808 are weatherproof.

They are furnished with porcelain-enameled reflectors, green outside and white inside, which gives an effective downward distribution of light. The enclosing globes are of genco, an opal glass which gives excellent diffusion with low absorption.

With the advent of the larger sizes of Mazda C lamps, there came a demand for this type of completely enclosing units for display lighting, the lighting of store fronts, and similar outdoor lighting.

For 100, 150 and 200-watt Mazda C Lamps

Cat. No.	Description	DIMEN., In. Length Over All	Max. Diam.	Diam. Fitter	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
804	Complete	12 1/8	12	6	4	35	\$6.65
805	Fixture...	5 3/4	12	6	4	15	4.20
775	Glass....	8	8	6	4	20	2.45

For 300 and 500-watt Mazda C Lamps

Cat. No.	Description	DIMEN., In. Length Over All	Max. Diam.	Diam. Fitter	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
806	Complete	13 3/4	15	6	4	45	\$7.80
807	Fixture...	9 1/8	15	6	4	25	5.35
775	Glass....	8	8	6	4	20	2.45

For 750 and 1000-watt Mazda C Lamps

Cat. No.	Description	DIMEN., In. Length Over All	Max. Diam.	Diam. Fitter	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
808	Complete	18	15	8	4	65	\$11.25
809	Fixture...	8 7/8	15	8	4	30	4.70
774	Glass....	11 3/4	12	8	4	35	6.55

Ivanhoe Mazda Enclosing Units for Mazda C Lamps

Porcelain-enameled, without Reflectors

Weatherproof, with genco globes.

Standard finish of metal parts, green porcelain enamel.

The enclosing globes are of genco, an opal glass which gives excellent diffusion with low absorption.



For 100, 150 and 200-watt Lamps

Cat. No.	Description	DIMEN., In. Length Over All	Max. Diam.	Diam. Fitter	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
754	Complete	12 1/2	8	6	4	35	\$4.90
755	Fixture	4 1/2	6	6	4	15	2.45
775	Glass	8	8	6	4	20	2.45

For 300 and 500-watt Lamps

Cat. No.	Description	DIMEN., In. Length Over All	Max. Diam.	Diam. Fitter	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
756	Complete	13 3/4	8	6	4	36	\$5.25
757	Fixture	6 3/8	6	6	4	16	2.80
775	Glass	8	8	6	4	20	2.45

For 750 and 1000-watt Lamps

Cat. No.	Description	DIMEN., In. Length Over All	Max. Diam.	Diam. Fitter	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
786	Complete	18	12	8	4	55	\$9.55
759	Fixture	6 7/8	8	8	4	29	3.00
774	Glass	11 3/4	12	8	4	35	6.55



No. 751 Ivanhoe Steel Reflectors



No. 751 is a porcelain enameled angle reflector green outside and white inside, designed for lighting tennis courts and motion-picture studios.

It should be used with one of the Ivanhoe Holders.

Detailed recommendations for tennis court lighting may be had on request.

Standard package, 5. Weight, standard package, 30 pounds.

For 300, 500, 750 and 1000-watt Mazda Lamps

Cat. No.	Dimen., In. Diam.	Depth	Price Each
751	15 $\frac{3}{4}$	14 $\frac{3}{4}$	\$4.50

No. DEM-25 Ivanhoe Steel Reflectors

Porcelain Enameled, Green Outside, White Inside

Designed for sewing table lighting and other locations where the reflectors must be small, and not interfere with the operator's view of the work. Fitted with D type holder for brass sockets.



Cat. No.	Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Wt., Lbs.	Price Each
DEM-25	25, 50	4 $\frac{3}{4}$	3 $\frac{1}{2}$	10	12	\$1.00

No. BEB-25 Ivanhoe Steel Reflectors

Porcelain Enameled, Green Outside, White Inside

The BEB-25 is a larger bowl type reflector for localized lighting with the Mazda Mill Type Lamp



Cat. No.	For Mazda Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Price Each
BEB-25	25, 50	2 $\frac{1}{4}$	6 $\frac{1}{2}$	4 $\frac{1}{4}$	10 \$1.40

No. BEL-50 Ivanhoe Steel Reflectors

Porcelain Enameled, Green Outside, White Inside

The BEL-50 is a 30° angle type reflector. For operations where the light must be directed upon the work from the side.



Cat. No.	For Mazda Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Price Each
BEL-50	25, 50	2 $\frac{1}{4}$	7	5 $\frac{1}{2}$	10 \$1.15

Ivanhoe Steel Reflectors

Distributing type reflectors for Mazda Mill Type lamps; also for localized lighting. They are white inside, green outside. The BPD is paint enamel finish and the BED is porcelain.



Cat. No.	For Mazda Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Price Each
BED-25	25, 50	2 $\frac{1}{4}$	8	3	10 \$1.15
BPD-25	25, 50	2 $\frac{1}{4}$	8	3	10 .70

Ivanhoe Special Service Reflectors

Standardized by the U. S. Post Office Department for mail-case lighting. Porcelain enameled, green outside and white inside. Holder permits reflector to swivel.

Cat. No.	Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Price Each
888	25, 40, 50, 60	7 $\frac{1}{2}$	5 $\frac{1}{2}$	10	\$1.40



No. 634 Ivanhoe Steel Reflectors

No. 634 is used extensively for sewing-machine lighting, and is applicable for other kinds of service requiring a small reflector. Finished in aluminum and provided with a D holder.



Cat. No.	Mazda Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Wt., Lbs.	Price Each
634	10, 15, 20	3 $\frac{3}{4}$	4	10	5	\$.60

Ivanhoe Steel Shallow Dome Reflectors

Distributing, Porcelain Enameled For 25 to 200-watt Mazda Lamps



Characteristic Distribution

Where requirements are not exacting, as in store-rooms and warehouses, these reflectors may be spaced from two to two and one-half times their height above the work.

Standard B-heel Type Reflectors Separable Holders

For use with any Ivanhoe Holder, or with any standard Form O holder.

Cat. No.	Mazda Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Wt., Lbs.	Price Each
BED-25	25, 40, 50	8	3	10	15	\$1.15
BED-50	25, 40, 50	10 $\frac{1}{4}$	3 $\frac{5}{8}$	10	20	1.25
BED-75	50, 60, 75	12 $\frac{1}{4}$	4 $\frac{1}{4}$	10	25	1.70
BED-100	100, 150, 200	15 $\frac{1}{4}$	6 $\frac{1}{4}$	10	35	2.50

Reflectors with R Type Holders

With Solid Top Containing Porcelain Socket

Cat. No.	Mazda Lamp Watts	Dimen., In. Diam.	Depth	Std. Pkg.	Wt., Lbs.	Price Each
RED-75	50, 60, 75	12 $\frac{1}{4}$	6 $\frac{3}{4}$	10	30	\$3.50
RED-100	100, 150, 200	15 $\frac{1}{4}$	8 $\frac{7}{8}$	5	25	3.80

Ivanhoe Combination Outlet Box Covers and Receptacles

Schedule R

This combination outlet box cover and medium base receptacle can be used with any standard deep or shallow outlet box of the dimensions indicated. It provides a convenient means of mounting reflectors with 2 $\frac{1}{4}$ -inch B-heels flush against the ceiling. The attachment device is the U N O shade holder so that reflectors can be instantly attached or removed without tools. The cover is conveniently attached to the outlet box by means of bayonet slots which fit under the heads of the holding screws.

Cat. No.	Distance Between Outlet Box Attachment Screws	Diameter Outlet Box Inches	Std. Pkg.	Approx. Ship. Wt., Lbs.	Price Each
943	2 $\frac{3}{4}$	3 $\frac{1}{4}$	10	10	\$.85
954	3 $\frac{1}{2}$	4	10	10	1.15

No. 901 Ivanhoe Porcelain Insulating Bushings

Suitable for all Ivanhoe separable holders and R-type reflectors which are tapped for $\frac{1}{2}$ -inch pipe. Made of high quality porcelain, well finished; clean-cut threads; inside top edge beveled.

Cat. No.	Dimensions Inches	Std. Pkg.	Wt., Lbs.	Price Each
901	$\frac{1}{2}$	50	5	\$.07



No. 0658 Ivanhoe Suspensions

Length of fixture, 3 $\frac{3}{8}$ inches; diameter of pipe, $\frac{1}{2}$ inch.

Standard finish, black enamel. Standard package, 20; approximate shipping weight, 15 pounds.



Price, No. 0658each \$1.10



Ivanhoe Holders for B-Heel Reflectors

These holders offer a solid, workmanlike method of suspending B-heel reflectors. They are convenient to wire and install, as they can be put into place whenever convenient, independent of the reflectors.

The advantage of B-heel Type of extension is that when the reflector is used with an Ivanhoe Socket Holder, or any standard Form 0 holder, it is possible to complete all wiring before hanging the reflector.

No. 902 Ivanhoe Holders

For Medium Base Lamps and B-Heel Reflectors



No. 902 is a steel holder finished in green paint. The top band of the holder attaches to shade-holder groove of a porcelain or composition socket, and the bottom band fits around the B-heel of the reflector.

Cat. No.	Diam. Fitter, In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
902	2 1/4	7/8	50	10	\$2.00

No. 822 Ivanhoe Holders

For Medium Base Lamps and B-Heel Reflectors

Porcelain socket holder, tapped at the top for a half-inch conduit. Attaches to B-heel by three clamps which are locked into place by a ring.



Cat. No.	Diam. Fitter, In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	PRICE EACH		
					Plain	Lock	Pull Chain
822	2 1/4	2 3/4	10	10	\$1.20	\$1.60	\$2.00

No. 908 Ivanhoe Holders

For Medium Base Lamps and Reflectors with 2 1/4-inch Reflectors



Consists of an outer shell and cap of cast aluminum, enclosing a medium porcelain socket with a fitting tapped for 1/2-inch conduit.

Cat. No.	Diam. Fitter, In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
908	2 1/4	3 1/4	10	15	\$1.95

No. 884 Ivanhoe Holders

For Medium Base Lamps and B-Heel Reflectors

Set-screw holder for half-inch conduit. Green porcelain-enamel finish and contains porcelain socket. Three set-screws.



Cat. No.	Diam. Fitter, In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	PRICE EACH		
					Plain Socket	Lamp Grip Socket	
884	2 1/4	3 1/4	10	10	\$1.60	\$2.00	

No. 622 Ivanhoe Holders

For Mogul Base Lamps and B-Heel Reflectors



Porcelain socket holder, tapped at the top for a half-inch conduit. It attaches to the B-heel by means of three clamps, which are locked into place by a ring.

Cat. No.	Fitter In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	PRICE EACH		
					Plain Socket	Lamp Grip Socket	
622	3 1/4	5 3/4	10	25	\$2.00	\$2.40	

No. 609 Ivanhoe Holders

For Mogul Base Lamps and Reflectors with 3 1/4-inch Fitters

For 3 1/4-inch B-heel reflector. Consists of a drawn aluminum shell containing a mogul porcelain socket. The reflector is attached or removed by a turning motion.

Cat. No.	Diam. Fitter In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
					Fitter	
609	3 1/4	5 1/4	10	25	\$3.10	

No. 705 Ivanhoe Holders

For Mogul Base Lamps and B-Heel Reflectors

Green porcelain-enamelled set-screw holder containing a porcelain socket. For a half-inch conduit. Attaches to a B-heel by 2 lugs and a set-screw



Cat. No.	Diam. Fitter In.	Depth In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	PRICE EACH		
					Plain Socket	Lamp Grip Socket	
705	3 1/4	5 3/4	10	25	\$2.35	\$2.75	

Nos. 501-517 Wheeler Metal Reflectors

Schedule MA

Cat. No.	Size In. hes	Size of Holder Inches	Std. Pkg.	Price per 100
501	8	2 1/4	100	\$22.75
505	10	2 1/4	100	31.00
509	12	2 1/4	100	62.00
513	14	3 1/4	100	.....
515	16	3 1/4	100	.....
517	18	3 1/4	100	.....



Nos. 530-535 Wheeler Reflectors

Schedule MA



For local light distribution over machines, work benches, tables, for office use, etc.

Cone shade with collar to fit standard holder. Paint enamel, white inside, green outside.

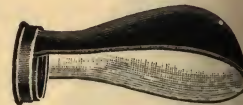
Cat. No.	Size Inches	Size of Holder Inches	Std. Pkg.	Price per 100
530	8	2 1/4	100	\$32.00
532	10	2 1/4	100	37.25
535	12	2 1/4	100	75.50

No. 367 Wheeler Metal Reflectors

Schedule MA

Half shade with collar to fit standard holder. Paint enamel, white inside, green outside.

Size of holder, 2 1/4 inches. Standard package, 100.



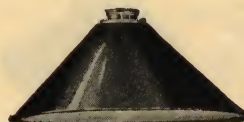
Price, No. 367..... per 100 \$28.00

Nos. 421-422 Wheeler Metal Reflectors

Schedule MA

Cone shade with holder (U) to fit UNO bead on brass shell sockets. Paint enamel, white inside, green outside.

Cat. No.	Diam. In.	Wattage Mazda Lamps	Std. Pkg.	Price per 100
421	8	15, 25 Med. Base	50	\$52.00
422	10	25, 40 " "	50	57.00



No. 438 Wheeler Metal Reflectors

Schedule MA

Half shade with holder to fit brass shell sockets. Paint enamel, white inside, green outside. For use with 25 and 40-watt medium base Mazda lamps. Standard package, 50.



Price, No. 438.....each \$42

No. 437 Wheeler Metal Reflectors

Schedule MA

Parabola shade with holder to fit brass shell sockets. Paint enamel, white inside, green outside. Diam., 6 1/2 in. For use with 25, 40 and 60-watt medium base Mazda lamps. Standard package, 50.

Price, No. 437..... per 100 \$85.00



Nos. 418 and 419 Wheeler Metal Reflectors

Schedule MA

Flat shade with holder (U) to fit UNO bead on brass shell sockets. Paint enamel, white inside, green outside.



Cat. No.	Diam. Inches	Wattage Mazda Lamps	Std. Pkg.	Price per 100
418	8	15, 25 Medium Base	50	\$42.00
419	10	25, 40 " "	50	55.00



Hubbell Flat Reflectors

Schedule C

Green and white. Can be furnished frosted aluminum inside, instead of white, at the same price.



For Brass Shell Sockets

No.	Tin Ref. Size, In.	Size Lamp Watts	PRICE, EACH				
			Less Than 10	10 to 49	50 to 99	100 to 499	500 and Over
5431	8	15-25	.26	\$22.55	\$20.95	\$19.35	\$18.55
5432	10	25-40	.30	27.75	25.80	23.80	22.80
5433	12	40-60	.38	33.45	31.10	28.70	27.50

For Weatherproof Sockets

No.	Tin Ref. Size, In.	Size Lamp Watts	Less Than 10	10 to 49	50 to 99	100 to 499	500 and Over
6751	8	15-25	.36	\$31.75	\$29.50	\$27.20	\$26.10
6752	10	25-40	.43	37.60	34.95	32.25	30.90
6753	12	40-60	.50	43.60	40.50	37.40	35.85

Hubbell Cone Reflectors

Schedule C

Green and white. Can be furnished frosted aluminum inside instead of white, at the same price.



For Brass Shell Sockets

No.	Tin Ref. Size, In.	Size Lamp Watts	PRICE, EACH				
			Less Than 10	10 to 49	50 to 99	100 to 499	500 and Over
5440	8	15-25	.28	\$24.45	\$22.70	\$21.00	\$20.10
5441	10	25-40	.32	28.15	26.15	24.10	23.10
5442	12	40-60	.42	36.35	33.75	31.15	29.85

For Weatherproof Sockets

No.	Tin Ref. Size, In.	Size Lamp Watts	Less Than 10	10 to 49	50 to 99	100 to 499	500 and Over
6760	8	15-25	.40	\$34.80	\$32.30	\$29.80	\$28.60
6761	10	25-40	.44	38.80	36.00	33.25	31.85
6762	12	40-60	.55	48.70	45.20	41.75	40.00

Hubbell Parabola Reflectors

For 25, 40 and 60-watt Lamps

With Holder at Top

Schedule C

Diameter of reflector is 6½ inches.

No. 6094 is made of steel, green and frosted. No. 6548 is made of brass, B. B. and frosted. No. 6549 is made of aluminum, green and frosted.



No. 6548

Cat. No.	Price, Each Less Than 10	PRICE, EACH			
		10 to 49	50 to 99	100 to 499	500 and Over
6094	\$.60	\$53.10	\$45.55	\$43.65	\$40.40
6548	.90	76.85	65.90	63.15	60.40
6549	.70	58.75	50.35	48.25	46.15

Hubbell Parabola Reflectors

For 25, 40 and 60-watt Lamps

With Holder at 30° Angle

Schedule C

Diameter of reflector is 6½ inches.

No. 6550 is made of steel, green and frosted. No. 6551 is made of brass, B. B. and frosted. No. 6552 is made of aluminum, green and frosted.



Cat. No.	Price, Each Less Than 10	PRICE, EACH			
		10 to 49	50 to 99	100 to 499	500 and Over
6550	\$.60	\$53.10	\$45.55	\$43.65	\$41.75
6551	.90	76.85	65.90	63.15	60.40
6552	.70	58.75	50.35	48.25	46.15

Hubbell Parabola Reflectors

For 25, 40 and 60-watt Lamps

With Holders at Top, Side or 30° Angle

Schedule C

For 6½-inch brass reflectors in polished nickel, add \$.40 to list; in oxidized copper finish, add \$.50 to list. All other special finishes, prices upon application.

White interior furnished without extra charge. Aluminum or steel reflectors cannot be furnished in a plated finish.

The above reflectors are all fitted with holders for brass shell sockets.

If desired for weatherproof sockets place the letter P after the catalogue number and add \$.07 to price.

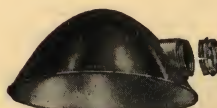
Hubbell Parabola Reflectors

For 25, 40 and 60-watt Lamps

With Holder at Side—6½ Inches in Diameter

Schedule C

No. 5564 is made of steel, green and frosted. No. 5571 is made of brass, B. B. and frosted. No. 5461 is made of aluminum, green and frosted. No. 6788 is made of steel, lacco, B. B. and frosted.



No. 5461

Cat. No.	Price Each Less Than 10	PRICE PER 100			
		10 to 49	50 to 99	100 to 499	500 and Over
5564	\$.55	\$51.10	\$43.80	\$42.00	\$40.15
5571	.85	77.60	64.50	61.75	59.10
5461	.65	56.40	48.30	46.30	44.30
6788	.60	53.85	50.00	46.15	44.20

Hubbell Half Reflectors

Schedule C

No. 6151, for 10-15 watt lamps is steel, finished green outside and white inside.

No. 6152, for 10-15 watt lamps furnished in brass. Brush brass outside and frosted inside.

No. 6806, steel. Lacco, brush brass and frosted finish. For 10-15 watt lamps.



No. 6151

No.	Less Than 10	PRICE, EACH			
		10 to 49	50 to 99	100 to 499	500 and Over
6151	\$.27	\$23.20	\$21.55	\$19.90	\$19.05
6152	.50	43.15	40.05	37.00	35.45

No. 5429, for 25-40-60 watt lamps is steel, finished green and white. No. 5532, for 25-40-60 watt lamps is brass. B. B. frosted. No. 6789, for 25-40-60 watt lamps is steel, lacco B. B. and frosted.



No. 5429

No.	Less Than 10	PRICE, EACH			
		10 to 49	50 to 99	100 to 499	500 and Over
5429	\$.26	\$23.75	\$22.65	\$21.55	\$19.90
5532	.65	54.55	50.65	46.75	44.85
6789	.40	32.80	30.45	28.10	26.95

The above reflectors are all fitted with holders for brass shell sockets. If desired for weatherproof sockets place the letter p after the catalogue number and add 7 cents to price.



Benjamin Window and Show Case Reflector

Pear Shaped Half Shade—Hinged Type



Takes up little room in a window or case, but distributes the light effectively upon the merchandise. Shades take Mazda B lamps up to 40 watts. Inside aluminized; outside as indicated in listing.

Prices are for reflectors only, and do not include sockets or lamps.

Cat. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
362	Brush Brass.....	10 2		\$.80
364	Brass, Polished Nickel.....	10 2		.95
365	Steel, Green Enameled.....	10 1 3/4		.45
365P	" " " for Porcelain Sockets.....	10 1 3/4		.80

Benjamin Window and Show Case Reflector

Tubular Half Shade—Hinged Type

Takes up little room in a window or case, but distributes the light effectively upon the merchandise. Shades take one 6-inch tubular lamp. Inside is aluminized; outside as indicated in listing.



Prices are for reflectors only, and do not include sockets or lamps.

Cat. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
277	Polished Nickel.....	10 2 1/4		\$.80
278	Steel, Green Enameled.....	10 2		.50

Benjamin Window and Show Case Reflector

Tubular Reflector



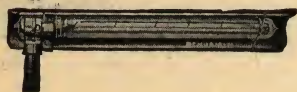
This shade is 14 inches in length and has clamps to take two 6-inch tubular lamps. Finish is polished nickel.

Prices are for reflectors only, and do not include sockets or lamps.

Cat. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
282	Slotted	10	5	\$2.00

Benjamin Window and Show Case Reflector

Tubular Reflector



Shade is 13 inches long and takes one 12-inch tubular lamp. Finish is polished nickel.

Prices are for reflectors only, and do not include sockets or lamps.

Cat. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
31	Not Slotted	10	3 3/4	\$2.00

Benjamin Show Case Fixtures For Wood Frame or All Glass Cases



The best arrangement of merchandise is handicapped unless it is properly illuminated. Benjamin Show Case Reflectors give the goods that attractiveness which is needed to stimulate the buying impulse. They reflect an even light distribution and are inconspicuous in the case. Benjamin Show Case Fixtures are of the sectional type and are easy to wire. In fact, the sections are rigidly joined together electrically and mechanically by tightening two screws.



Brackets Mounted
on All Glass Case



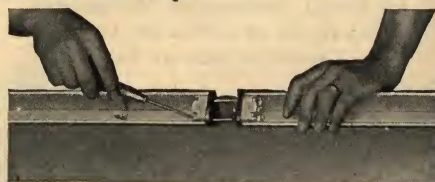
Brackets Mounted
on Wood Frame Case

Simple methods of installation for both wood frame and glass cases are more clearly illustrated on leaflet packed with each reflector.

Standard 16-inch section takes two 6-inch tubular Edison base lamps.

Standard 22-inch section takes two 6-inch or one 6-inch and one 12-inch tubular Edison Base Lamp.

Standard 30-inch section takes two 6-inch or two 12-inch tubular Edison Base Lamps.



Reflector Being Joined Together
Electrically and Mechanically by
Tightening Two Machine Screws



Connecting Stem and End Section
Electrically

REFLECTORS.—Width 1 7/8 inches. Inside finish, aluminum; outside, black. Polished nickel outside finish on brass, 33 1/3 per cent over list prices.

Prices do not include lamps; stem assembly is not wired.

Cat. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
4355	16-inch Section Only, Wired.....	5	6 1/4	\$4.50
4357	22 " " " " ".....	5	7 1/2	4.70
4356	30 " " " " ".....	5	8 3/4	5.35
4360	29 " Stem, Flange and Bushing Only.....	5	5	1.85

Special length sections occasionally desired to fill out a combination of standard sections for unusual length requirements, list as follows:

*Price, 10 to 15-inch Sections, One Socket.....each \$5.00
" 17 " 36 " " Two Sockets....." 6.50

*The above sections are for dead end only and are not "wired through."



Morse High Efficiency Locked Lamp Guards



Cat. No.	Brass		Price per Doz.
	Watts		
350	50		\$5.00
353	75		7.50
354	100		9.00
356	200		15.00
Mogul			
357	300		\$21.00
359	500		36.00
361	1000		54.00

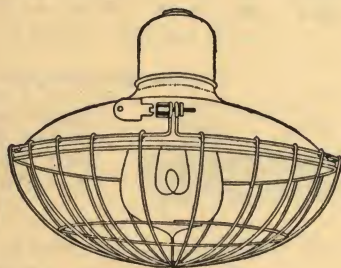
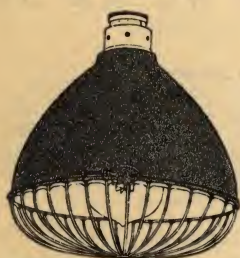
Weatherproof

Cat. No.	Watts	Price per Doz.
350WP	50	\$5.00
353WP	75	7.50
354WP	100	9.00
356WP	200	15.00

Mogul Weatherproof

Cat. No.	Watts	Price per Doz.
357WP	300	\$21.00
359WP	500	36.00
361WP	1000	54.00

Morse Combination Locked Guards For Heavy Steel Reflectors



Style Nos. 290 to 299

Styles 290 to 299, depth $\frac{1}{4}$ diameter. Styles 280 to 288, depth $\frac{1}{8}$ diameter. Without locks 10 per cent less.

Cat. No.	Watts	Diam. In.	Price Each	Cat. No.	Watts	Diam. In.	Price Each
290	25	6	\$.75	280	25	12	\$1.80
291	40	7	.75	281	40	14	2.00
292	60	8	.85	282	60	15	2.25
293	100	9	1.00	283	100	16	2.40
294	125	10	1.20	284	150	17	2.70
295	150	11	1.40	285	250	18	3.00
296	250	12	1.60	286	400	20	3.50
296A	300	14	1.85	287	500	22	4.00
297	400	15	2.00	288	750	24	5.00
298	500	16	2.25	...	...	...	...

Morse Heavy Ceiling Lamp Guards



These guards are fastened to flat iron rings with lugs.

A very strong and substantial guard, built with an eye to service.

If wanted with hinge and hasps, add 20 per cent to price.

Cat. No.	Diam. Inches	Price per Dozen	Cat. No.	Diam. Inches	Price per Dozen
49	3 x5 or 6	\$7.50	55	12x11	\$25.50
50	4 x7	9.00	57	14x12	30.00
52	4½x8	12.00	58	16x13	36.00
52A	6 x8	15.00	59	18x14	42.00
51	8 x8	18.00	60	20x15	48.00
53	10 x9	21.00	61	22x16	60.00

Morse New Open Bottom Lamp Guards

With Cushion Ring For Brass Sockets



Cat. No.	Style	Watts	Price per Dozen
161	Light	40	\$2.50
162	"	60	3.00
163	Heavy	40	3.50
164	"	60	4.50

Morse No Steel Guards



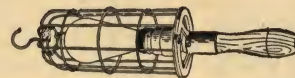
		For Brass Sockets		For Weather-proof Sockets	
Style	Watts	Cat. No.	Price per Doz.	Cat. No.	Price per Doz.
Light	40	240	\$2.50	244	\$2.50
"	60	241	3.00	245	3.00
Heavy	40	242	3.50	246	3.50
"	60	243	4.50	247	4.50

Morse Heavy Portable Lamp Guards



Cat. No.	Watts	Price per Doz.	Cat. No.	Watts	Price per Doz.
70	25	\$10.00	72	60	\$12.00

Eureka Hand Guards



Cat. No.	Watts	Price per Doz.	Cat. No.	Watts	Price per Doz.
46	25	\$15.00	48	60	\$15.00

Protector O Lamp Guards

An open bottom guard enabling quick and easy removal or insertion of lamp and fully protects against breakage.

Heavily tinned.

Cat. No.	Size Lamp	Volt	Style Socket	Car. ton	Shp. Wt., Lbs. per Gro.	Price per Doz.
1429	40-60	110-220	Brass	144	33	\$4.00
1432	40-60	110-220	WP	144	33	4.00



Protector A Lamp Guards

A low priced guard, made of steel wire, heavily tinned, requiring no shade holder and can be quickly put on lamp without tools.



Cat. No.	Size Lamp	Volt	Car-ton	Wt., Lbs. per Gro.	Price per Doz.
1441	25	110	144	25	\$2.80

Gripon Lamp Guards

The Gripon Lamp Guard is fastened to the socket by means of plain screws.

For Regular Mazda Lamps

Cat. No.	Size Lamp	Volts	Style Sockets	Price, per Dozen
1600	25-60	110	Brass	\$4.00
*1602A	25-60	110	W. P.	4.00

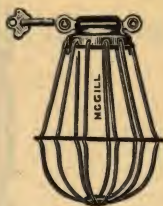
For Mill Type Lamps

Cat. No.	Size Lamp	Volts	Style Sockets	Price, per Dozen
1608	25-50	110-220	Brass	\$4.00
1608A	25-50	110-220	W. P.	4.30



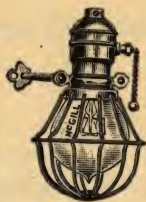
No. 1600

*All numbers followed by A fit the following sockets: Bryant, Nos. 9366, 9448 and 9395 porcelain; No. 43310 mica; Paiste, No. 9366 porcelain; General Electric, No. 9366 porcelain; General Electric, No. 60666 composition, new style; Freeman, Nos. 132, 155 and 320 porcelain; P. & S., Nos. 60217 and 116 porcelain; Siemens, No. 43310 composition.



Loxon Lamp Guards

Theft of incandescent lamps is prevented by the use of Loxon lamp guards. These guards enable the lamps to burn their full life.



Regular

For Mill Type Lamps

Mill Type

Shipping Wt., Lbs. per Car.	Price per Doz.
25	\$6.00
31	6.30
31	6.30

Cat. No.	Watts	SIZE LAMP Volts	Style Socket	Car-ton
1420	25-50	110-220	Brass	144
1420A	25-50	110-220	WP	144
1420B	25-50	110-220	WP	144

For Regular Mazda Lamps

Cat. No.	Watts	SIZE LAMP Volts	Style Socket	Car-ton	Shipping Wt., Lbs. per Car.	Price per Doz.
1425	25-60	110	Brass	144	35	\$6.00
1426	40-60	220	"	144	41	6.30
1427A	25-60	110	WP	144	41	6.00
1427B	25-60	110	"	144	46	6.00
1428A	40-60	220	"	144	48	6.30
1428B	40-60	220	"	144	48	6.30
2443	75	110-220	Brass	144	48	9.00
2444	100	110-220	WP	144	56	10.00
2446A	100	110-220	"	144	57	10.00
2446B	100	110-220	"	144	57	10.00
2447	200	110-220	Brass	144	68	12.50
2447A	200	110-220	WP	144	68	12.50
2447B	200	110-220	"	144	68	12.50

One key with every dozen guards. Extra keys, \$.10 each.

All Numbers followed by A fit the Following Sockets:

No. 9366 porcelain in Bryant, GE, Paiste, Arrow and P. & S. No. 60666 composition new style Bryant, GE, J H P S Inc., Nos. 9395 and 9448 porcelain Bryant; Nos. 132, 155, 320 porcelain Freeman; No. 116 and parts S26, S27 and S47 in P. & S.; No. 43310 mica in Bryant, GE, Siemon & J H P S.

All Numbers followed by B fit the Following Sockets:

No. 60666 composition in Bryant, GE, Paiste, Arrow, P. & S., Siemons; No. 60666 old style composition in GE; No. 60666 rubber in H W J M; No. 160 porcelain old style Freeman.

Reflector Loxon Lamp Guards



No. 1400



No. 1443



No. 1445

The Loxon Lamp Guard reduces the fire hazard from hot or broken lamps.

It is a prevention against theft and makes it possible for the incandescent lamps to burn their full life.

All guards are heavily tinned.

One key furnished with every dozen guards. Extra keys are 10 cents each net.

Loxons are made to fit Condulets, V.V., Unilet or Triplet Receptacles, also aluminum sockets. Sample fitting must accompany order to insure proper fit.

For Mill Type Lamps

Cat. No.	Watts	SIZE LAMP Volts	Style Socket	Car-ton	Shipping Wt., Lbs. per Car.	Price per Doz.
1400	25-50	110-220	Brass	144	45	\$9.00
1401	25-50	110-220	WP	144	50	9.00

Reflector Loxons for Regular Mazda Lamps

1443	25-40	110	Brass	144	58	\$9.00
1444	25-40	110	WP	144	64	9.00

Cone and Half Shades only for Loxons

Cat. No.	Kind of Shade	Style Socket	Lamp Watts	Car-ton	Wt., Lbs. per Doz.	Price per Doz.
1445	10 Inch	WP	25-60	144	6	\$5.50
1555	Half Cone	Brass	25-60	144	4	5.50

Thumb Switch Type Portable Lamp Guards

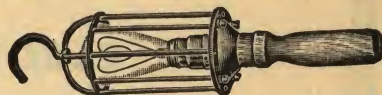


One of the best all around guards for the private and public garage, basements, etc. It has a non-breakable lever socket for one hand operation.

Price, No. 2003, to fit 25 or 50-watt Lamps.....each \$2.80

Crescent Portable Lamp Guards

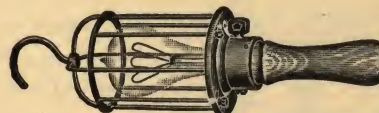
A strong and convenient portable, made of Bessemer steel, copper-plated. It takes any 3/8-inch keyless socket, but is furnished without socket. Standard brass.



Price, No. 4645, to fit 40-watt Lamps.....each \$2.50

" " 4676 " " 60 " " " " 2.50

Bulldog Portable Lamp Guards



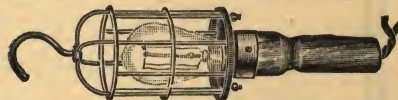
Furnished with key or keyless socket, securely embedded in handle, giving a firm, rigid base.

Price, No. 4675, Key Socket to fit 60-watt Lamps..ea. \$3.50

" " 2590 Keyless Socket to fit 60-watt Lamps.. " 3.50

Dreadnaught Portable Lamp Guards

A strong portable guard made of Bessemer steel, built to withstand hard usage. Has a porcelain keyless socket fitted with spring contact firmly embedded in handle. Metal part, copper-plated finish.



Price, No. 4000, to fit 60-watt Lamps.....each \$3.50

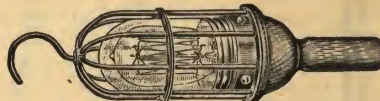
National Portable Lamp Guards



One-piece; made of steel, heavily tinned, with porcelain keyless weather-proof socket. No. 1451 for 40-watt lamp; No. 1452, 60-watt. Price...each \$2.50

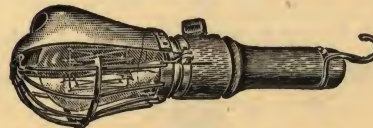
Safety Vapor-proof Portable Lamp Guards

Designed to meet the requirements of the garage or wherever gases or inflammable materials may be used. Has heavy steel frame, strong handle, handy grip hook and vapor-proof receptacle. Heavily tinned finish.



Price, No. 3001, to fit 25-watt Lamps.....each \$5.00

Cable Rack Portable Lamp Guards



Furnished with key or keyless socket securely embedded in handle.

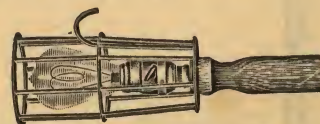
Takes 60-watt, 110-volt mazda lamp,

Price, No. 2000, with Key Socket.....each \$2.80

" " 2001 " Keyless Socket..... " 2.80

Monitor Portable Lamp Guards

A low priced guard furnished without socket. Prevents breakage and helps to reduce danger from hot and broken lamps.



Price, No. 1453, to fit 40-watt Lamps.....each \$1.70

" " 1454 " " 60 " " " " 1.80

Send for Separate Catalogs
of our
ELECTRIC LIGHTING FIXTURES

We have not attempted in this book to show our extensive line of lighting fixtures and will be pleased to send you separate catalogs upon request. In addition to the commercial fixtures illustrated on the following pages, we have included a few of our popular-priced residential designs.

We invite our dealers to bring or send
their customers to our
**FIXTURE
STUDIOS**
for
the purpose of making selections from our
interesting displays of an exceptionally
large variety of high-grade pieces

We maintain a staff of designers and illuminating engineers for the purpose of assisting you in any lighting problem you may have. This service is at your disposal without obligating you in any way.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





No. G141 Miller Fixtures with Lamp Adapters



No. of Lights	Finish	Length Inches	Spread Inches	Price Each as Shown Except Lamps
4	Old Brass and Black.....	36	16	\$16.48
4	Satin Brown and Gold.....	36	16	16.48
4	" Gray " "	36	16	16.48
3	Old Brass and Black.....	36	16	14.46
3	Satin Brown and Gold.....	36	16	14.46
3	" Gray " "	36	16	14.46

No. G147 Miller Electric Fixtures With No. 621 Ball Lamp Adapters



No. of Lights	Finish	Length Inches	Spread Inches	Price Each as Shown Except Lamps
2	Old Ivory and Gold.....	36	11	\$9.52
2	" Brass " Black.....	36	11	8.66
2	Satin Brown and Gold.....	36	11	8.66

No. G143 Miller Electric Fixtures With No. 621 Ball Lamp Adapters



No. of Lights	Finish	Length Inches	Diameter Inches	Price Each as Shown Except Lamps
3	Old Brass and Black.....	36	11	\$10.42
3	" Ivory " Gold.....	36	11	11.48
3	Satin Brown and Gold.....	36	11	10.42

No. G145 Miller Electric Fixtures With No. 621 Ball Lamp Adapters



No. of Lights	Finish	Length Inches	Spread Inches	Price Each as Shown Except Lamps
2	Old Brass and Black.....	36	12	\$8.88
2	" Ivory " Gold.....	36	12	9.76
2	Satin Brown and Gold.....	36	12	8.88



No. G141 Miller Electric Fixtures



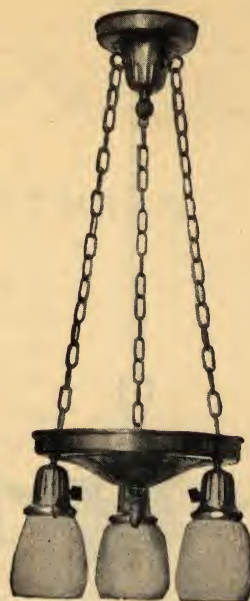
No. of Lights	Finish	Length Inches	Spread Inches	Price Each as Shown Except Lamps
4	Old Brass and Black.....	36	16	\$16.48
4	Satin Brown and Gold.....	36	16	16.48
4	" Gray " ".....	36	16	16.48
3	Old Brass and Black.....	36	16	14.46
3	Satin Brown and Gold.....	36	16	14.46
3	" Gray " ".....	36	16	14.46

No. G147 Miller Electric Fixtures



No. of Lights	Finish	Length Inches	Diam. Inches	Price Each as Shown Except Lamps
2	Old Ivory and Gold.....	36	11	\$9.52
2	" Brass " Black.....	36	11	8.66
2	Satin Brown and Gold.....	36	11	8.66

No. G143 Miller Electric Fixtures



No. of Lights	Finish	Length Inches	Diam. Inches	Price Each as Shown Except Lamps
3	Old Brass and Black.....	36	11	\$10.42
3	" Ivory " Gold.....	36	11	11.48
3	Satin Brown and Gold.....	36	11	10.42

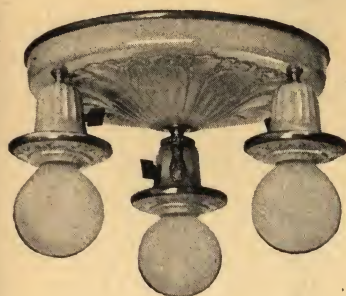
No. G145 Miller Electric Fixtures



No. of Lights	Finish	Length Inches	Spread Inches	Price Each as Shown Except Lamps
2	Old Brass and Black.....	36	12	\$8.88
2	" Ivory " Gold.....	36	12	9.76
2	Satin Brown and Gold.....	36	12	8.88



No. G148 Miller Electric Fixtures



Old Brass and Black

No. of Lights	Diam. Inches	Price Each
3	11	\$7.74

Satin Brown and Gold

3	11	\$7.74
---	----	--------

Old Ivory and Gold

3	11	\$8.50
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Prices do not include lamps.

No. G142 Miller Electric Brackets

With No. 621 Ball Lamp Adapters

Old Brass and Black

No. of Lights	Projection Inches	Price Each
1	3 3/4	\$3.70

Satin Brown and Gold

1	3 3/4	\$3.70
---	-------	--------

Satin Gray and Gold

1	3 3/4	\$3.70
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Prices do not include lamp.

No. G144 Miller Electric Brackets

With No. 621 Ball Lamp Adapters

Old Brass and Black

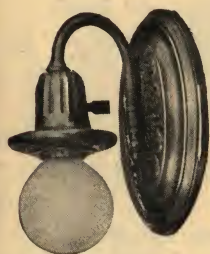
No. of Lights	Projection Inches	Price Each
1	4 1/4	\$4.86

Satin Brown and Gold

1	4 1/4	\$4.86
---	-------	--------

Old Ivory and Gold

1	4 1/4	\$5.34
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Prices do not include lamp.

No. G146 Miller Electric Brackets

With No. 621 Ball Lamp Adapters

Old Brass and Black

No. of Lights	Projection Inches	Price Each
1	5 1/2	\$2.88

Old Ivory and Gold

1	5 1/2	\$3.16
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Satin Brown and Gold

1	5 1/2	\$2.83
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Prices do not include lamp.

No. G148 Miller Electric Lighting Fixtures



Old Brass and Black

No. of Lights	Diam. Inches	Price Each
3	11	\$7.74
2	11	6.40

Satin Brown and Gold

3	11	\$7.74
2	11	6.40

Old Ivory and Gold

3	11	\$8.50
2	11	7.07

Prices do not include lamp.

No. G142 Miller Electric Brackets

Old Brass and Black

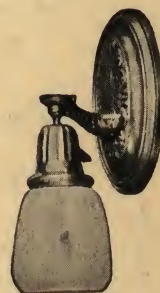
No. of Lights	Projection Inches	Price Each
1	3 3/4	\$3.70

Satin Brown and Gold

1	3 3/4	\$3.70
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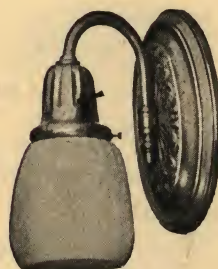
Satin Gray and Gold

1	3 3/4	\$3.70
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Prices do not include lamp.

No. G144 Miller Electric Brackets



Old Brass and Black

No. of Lights	Projection Inches	Price Each
1	4 1/4	\$4.86

Satin Brown and Gold

1	4 1/4	\$4.86
---	-------	--------

Old Ivory and Gold

1	4 1/4	\$5.34
---	-------	--------

Prices do not include lamp.

No. G146 Miller Electric Brackets

Old Brass and Black

No. of Lights	Projection Inches	Price Each
1	5 1/2	\$2.88

Old Ivory and Gold

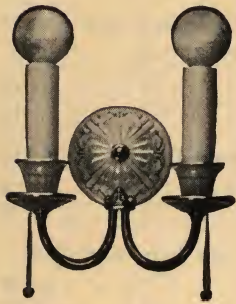
1	5 1/2	\$3.16
---	-------	--------

Satin Brown and Gold

1	5 1/2	\$2.88
---	-------	--------



Prices do not include lamp.

**No. G120 Miller Electric Brackets**

Old Ivory and Gold			
No. of Lights	Projection Inches	Spread Inches	Price Each
2	3½	6½	\$9.84
Old Brass and Black			
2	3½	6½	\$8.96
Satin Brown and Gold			
2	3½	6½	\$8.96
Silver and Black			
2	3½	6½	\$10.80

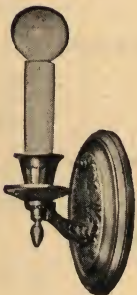
Prices do not include lamp.

No. G121 Miller Electric Brackets

Old Ivory and Gold		
No. of Lights	Projection Inches	Price Each
1	4½	\$5.92
Old Brass and Black		
1	4½	\$5.38
Satin Brown and Gold		
1	4½	\$5.38
Silver and Black		
1	4½	\$6.50



Prices do not include lamp.

No. G113 Miller Electric Brackets

Old Brass and Black		
No. of Lights	Projection Inches	Price Each
1	3¾	\$5.90
Satin Brown and Gold		
1	3¾	\$5.90
Silver and Black		
1	3¾	\$6.96

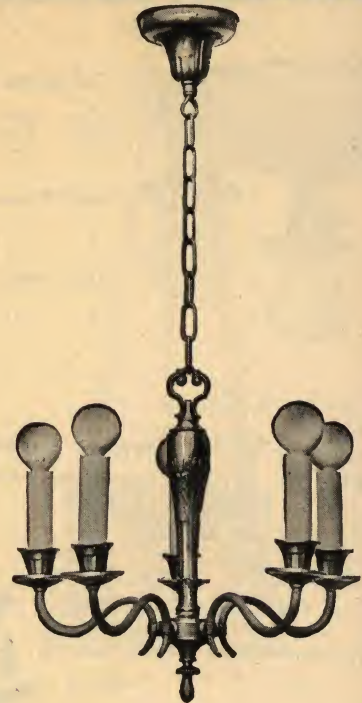
Prices do not include lamp.

No. G109 Miller Electric Brackets

Old Brass and Black		
No. of Lights	Projection Inches	Price Each
1	4¼	\$6.26
Satin Brown and Gold		
1	4¼	\$6.26
Silver and Black		
1	4¼	\$7.46



Prices do not include lamp.

No. G114 Miller Electric Fixtures

No. of Lights	Finish	Length Inches	Spread Inches	Price Each as Shown Except Lamps
5	Old Brass and Black	36	16½	\$29.40
5	Silver and Black	36	16½	\$32.26
5	Satin Brown and Gold	36	16½	\$29.40

No. G100 Miller Electric Fixtures

Old Brass and Black		
No. of Lights	Length Inches	Price Each
1	7	\$2.18
Satin Brown and Gold		
1	7	\$2.18
Satin Gray and Gold		
1	7	\$2.18
White Enamel		
1	7	\$2.40

Prices do not include lamp.

No. G106 Miller Electric Brackets

Dull Brass		
No. of Lights	Projection Inches	Price Each
1	5½	\$2.54
White Enamel		
1	5½	\$3.87



Prices do not include lamp.



No. G103 Miller Electric Lanterns



No. of Lights	Finish	Length Inches	Diameter Inches	Price Each as Shown Except Lamps
1	Old Brass and Black	36	7 1/4	\$12.54
1	Satin Brown and Gold	36	7 1/4	12.54
1	" Gray "	36	7 1/4	12.54

No. G105 Miller Electric Fixtures



No. of Lights	Finish	Length Inches	Price Each as Shown Except Lamps
1	Dull Brass	36	\$4.40
1	White Enamel	36	4.80

No. G101 Miller Electric Bracket Lanterns



Black Iron			
No. of Lights	Projection Inches	Lantern Inches	Price Each
1	6	5x6 1/2	\$6.14
Verde Antique			
1	6	5x6 1/2	\$6.66

No. G108 Miller Electric Ceiling Fixtures



Black Iron		
No. of Lights	Holder Inches	Price Each
1	3 1/4	\$1.84
Bright Copper		
1	3 1/4	\$2.00
Verde Antique		
1	3 1/4	\$2.00

Prices do not include lamp.

Prices do not include lamp.

No. G102 Miller Electric Lanterns



Black Iron			
No. of Lights	Length Inches	Lantern Inches	Price Each
1	12	5x6 1/2	\$6.14
Verde Antique			
1	12	5x6 1/2	\$6.66

Nos. S10806 and S10807 Aglites



Nos. S-10806 and S-10807

Cat. No.	Description	Shipping Wt., Lbs. Each	Price Each
S-10806	No Switch	2	\$2.55
S-10807	With "	2	3.75

Prices do not include lamp.



P-A Fixtures with Ivanhoe Trojan Glassware

Plain Ceiling Type with Plain Trojan Globe



Cat. No.	Diam. Globe In.	Watts	PRICE, EACH	
			Old Brass Finish	P-A Bronze
*13915	9	75	\$3.75	\$4.00
13916	12	100-150	5.25	5.50
13917	14	150-200	7.25	7.50
13918	16	300-500	8.25	8.50
13822	18	500-750	15.00	15.50

*No. 13915 can be furnished in white enamel finish for kitchens and bath rooms at same price as bronze finish.

Plain Pendent Type with Plain Trojan Globe



Cat. No.	Diam. Globe In.	Watts	PRICE, EACH	
			Old Brass Finish	P-A Bronze
18567	9	75	\$5.25	\$5.75
18568	12	100-150	6.75	7.25
18569	14	150-200	8.40	8.90
18571	16	300-500	9.95	10.45
18681	18	500-700	17.25	18.25

Prices are for units wired and assembled complete, including approved type porcelain keyless socket and No. 14 silk Deltabeston wire, $\frac{3}{8}$ -inch male hickey. No extra charge for boxing. Pull switch concealed inside of ceiling canopy for individual control, \$1.00 each extra. Pendant hangers are 40 inches long from ceiling to bottom of holder.

P-A Fixtures with Ivanhoe Trojan Glassware

Plain Ceiling Type with No. 501 Decorated Trojan Globe and Tassel



Cat. No.	Diam. Globe In.	Watts	PRICE, EACH	
			Old Brass Finish	P-A Bronze
14021	9	75	\$5.50	\$5.75
14022	12	100-150	7.50	7.75
14023	14	150-200	9.00	9.25
14024	16	300-500	10.25	10.50
14025	18	500-750	16.75	17.50

Plain Pendent Type with No. 501 Decorated Trojan Globe and Tassel



Cat. No.	Diam. Globe In.	Watts	PRICE, EACH	
			Old Brass Finish	P-A Bronze
18756	9	75	\$6.75	\$7.25
18757	12	100-150	8.75	9.25
18758	14	150-200	10.00	10.50
18759	16	300-500	12.00	12.50
18760	18	500-750	18.75	19.75

Prices are for units wired and assembled complete. Pendent hangers are 40 inches long from ceiling to bottom of holder.



P-A Fixtures with Ivanhoe Trojan Glassware
Ornamental Ceiling Type with Tassel and No. 501
Decorated Trojan Globe
Finish: P-A Bronze with Gold Relief or Florentine with Gold Relief



Cat. No.	Diam. Globe In.	Watts	Price Each
14026	9	75	\$7.25
14027	11	100-150	9.25
14028	14	150-200	10.75
14029	16	300-500	12.00

Ornamental Pendant Type with Tassel and No. 501
Decorated Trojan Globe
Finish: P-A Bronze with Gold Relief or Florentine with Gold Relief



Cat. No.	Diam. Globe In.	Watts	Price Each
18761	9	75	\$10.50
18762	12	100-150	12.50
18763	14	150-200	13.75
18764	16	300-500	15.75

Prices are for units wired and assembled complete. Pendant hangers are 40 inches long from ceiling to bottom of holder.

P-A Fixtures with Ivanhoe Trojan Glassware
Ornamental Ceiling Type with Tassel with
Either No. 501 Decorative or Plain Trojan
Globe
Finish: Antique Gilt



Cat. No.	Diam. Globe In.	Watts	PRICE, EACH	
			Decorated Globe	Plain Globe
14030	12	100-150	\$22.25	\$20.00
13909	14	150-200	25.25	23.50
13910	16	300-500	27.50	25.50
14031	18	500-750	32.75	31.00

Ornamental Pendant Type with Tassel with Either
No. 501 Decorated or Plain Trojan Globe
Finish: Antique Gilt



Cat. No.	Diam. Globe In.	Watts	PRICE, EACH	
			Decorated Globe	Plain Globe
18765	12	100-150	\$22.25	\$20.00
18627	14	150-200	25.25	23.50
18596	16	300-500	27.50	25.50
18745	18	500-750	32.75	31.00

Prices are for units wired and assembled complete, including approved type porcelain keyless socket and No. 14 silk Deltabeston wire, 3/8-inch male hickey. No extra charge for boxing. Pull switch concealed inside of ceiling canopy for individual control, \$1.00 each extra. Pendant hangers are 40 inches long from ceiling to bottom of holder.



No. D-171 Series Duplexalites



The No. D-171 Series is designed especially for the illumination of residences.

The antique brass is particularly adapted for use in beautiful living-rooms, and the silver is harmonious with the spirit of the dining room.

The inside reflecting surface is of white porcelain, which is most easily cleaned, highly efficient and practically unbreakable.

With Duplexalite it is possible to read comfortably and with no conscious effort in any part of the room and in any position. Yet the room does not seem too light. It is merely a change in the character of the illumination and a more complete diffusion.

Silk shades may be used with these fixtures, if desired. The self-illumination of Duplexalite is sufficient to illuminate attractively any form of decorative shade.

Medium

Cat. No.	For Lamp Size Watts	Size Wire	Length Over All Inches	Diam. Inches	Std. Pkg.	PRICE, EACH	
						Antique Brass	Silver or Antique Ivory
D-171	100-150	16	36	12	4	\$17.00	\$18.00
D-271	200	14 S.B.	48	14	5	19.00	20.00

Mogul

D-571	300-500	14 S.B.	60	16	5	\$26.00	\$27.00
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No. D-161 Series Duplexalites

The D-161 Series is designed for offices, banks, schools, auditoriums, drafting rooms, libraries, studios, show rooms, and kitchens.

The chain hanger, brass canopy and socket cover are finished in antique brass. The new diffusing disc is made of special formula, heavy molded glass, in an attractive shape and design. All discs have holes drilled in the center, so that ornamental tassels may be easily attached. The porcelain enameled deflector has a polished white reflecting surface inside—the best and most durable reflecting surface and a mat-surfaced cream enamel outside.

Good illumination requires a sufficient intensity of well-diffused light and the elimination of glare.

The Duplexalite places a circular eye shield or deflector around the lamp, changing the horizontal rays upward or downward.



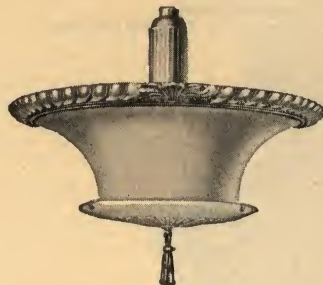
Medium

Cat. No.	For Lamp Size Inches	Size Wire	Length Over All Inches	Diam. Inches	Std. Pkg.	Price Each
D-161	100-150	16	36	12	4	\$12.00
D-261	200	14 S.B.	48	14	5	14.00

Mogul

D-561	300-500	14 S.B.	60	16	5	\$17.00
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Duplexalite Ornamental Trimmings



These ornamental trimmings are sold separately and may be applied to any standard Duplexalite.

They are designed to add a more ornate finish to the D-161 Series Duplexalites for use in private offices, etc.

Finish, antique brass. Standard package, 5.

Cat. No.	Description	PRICE, EACH FOR CATALOGUE NUMBERS		
		D-161	D-261	D-561
R800	Ornamental Ring.....	\$3.50	\$4.00	\$5.00
.....	Tassel.....	.35	.35	.45

Duplexalite Silk Shades

Shades have the silk closely shirred and finished in ruching form at top and bottom. The shades are silk lined in every case.

The shades come in old gold, old rose, ceru, French gray, and delft blue. Disc screens come in ceru, old gold and old rose.

Standard package, 5.



Cat. No.	Description	PRICE, EACH FOR CATALOGUE NUMBERS		
		D-161	D-261	D-561
S-5010	Silk Shades.....	\$9.50	\$12.50	\$16.50
S-5010	Wire Frame only.....	1.25	1.50	1.75
.....	Disc Screen and Tassel.....	2.00	2.25	2.50
.....	Frame only.....	.50	.60	.75

No. D-281 Series Duplexalites



Cat. No.	For Lamp Watts	Diam. In.	PRICE, EACH FINISH	
			Antique Hammered Gold and Red	Antique Hammered Silver and Black
D281	100-200	14	\$22.50	\$24.50
D581	300-500	16	28.00	30.00



X-Ray Beehive Reflectors



Gives wide spread of light and hides lamp. Adapted for illuminating factories, etc. One-piece blown corrugated glass with reflecting surface of pure silver.

No. 535 may be used with 40 and 50-watt Mazda B lamps.

No. 580 is furnished with special holder.

Cat. No.	DIMENSIONS, INCHES Diam. Height	Holder Inches	Mazda Lamp, Watts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
3	4 1/2 3 1/4	2 1/4 O	50 MT	40	19 1/2	\$1.50
*535	5 3/4 5 1/8	2 1/4 H	75	24	25	2.00
570	7 7/8 6 7/8	3 1/4 A	150	16	32	3.50
575	9 3/8 8	3 1/4 A	200	8	25	4.25
580	11 7/8 9 3/8	Special	300-500	4	23	9.50

X-Ray Direct Lighting Reflectors

These reflectors are of one-piece blown corrugated glass, with a pure silver reflecting surface; green finish outside. No. 696 gives a concentrated light for billiard tables, etc. No. 700 is a semi-distributing reflector, suited for use over type cases, desks, etc. No. 710 gives an intense light for small areas.



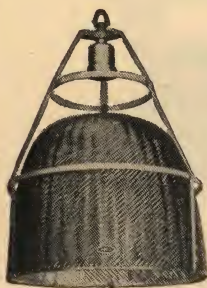
Cat. No.	DIMENSIONS, INCHES Diam. Height	Size Holder Inches	Mazda C Lamp, Watts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
*696	8 5	2 1/4 O	75	24	40	\$3.00
†700	10 5 1/2	2 1/4 H	100-150	18	38	3.50
710	11 1/2 6 3/4	3 1/4 A	200	6	21 1/2	8.00

*696 may be used with 40, 50 and 60-watt Mazda B lamps.

†No. 700 may be used with 100-watt Type B lamps.

No. 54 X-Ray Jumbo Reflectors

For 750 and 1000-watt Mazda C Lamps



The No. 54 unit is complete with No. 770 reflector, special holder and mogul socket. It is designed for the illumination of large interiors.

Made of corrugated blown glass with reflecting surface of pure silver, green finish outside.

Diameter of reflector only 16 1/2 inches; height reflector only 13 3/8 inches.

Standard package, 1; package weight, 48 lbs.

Price, No. 54, with Holder.....each \$25.00

No. 778 X-Ray Scoop Reflectors

For 75-watt Mazda C Lamps

Designed to illuminate small windows of depth equal to height, and where trim is made high in back of windows. No light is wasted on the ceiling of the window or sidewalk.

It is of one-piece mirrored glass, pure silver-plated and corrugated to break up light rays. It is protected by a special green backing which prevents cracking, peeling or blistering.

Form O shade holder is used.



Cat. No.	DIMENSIONS, INCHES Width Height Depth	Size Holder Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
778	7 1/8 6 3/8 6 1/8	2 1/4	24	35	\$4.00

No. 731 X-Ray Hood Reflectors

For 75-watt Mazda C Lamps



Designed to light low shallow windows. A high concentration is produced in the window, cutting the light off sharply at the window plate. Closely follows correct window lighting principles.

Reflector is made of one-piece mirrored glass, corrugated, pure silver-plated inside, green protecting surface outside.

Cat. No.	DIMENSIONS, INCHES Width Height Depth	Size Holder Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
731	8 7/8 6 3/8 8 7/8	2 1/4 H	16	26	\$4.75

No. 600 X-Ray Jove Reflectors

For 150-watt Mazda C Lamps

Designed for windows of average proportion, those where height is one to one and one-half times their depth; reflection from glass or mirror background is eliminated.

The shape of this reflector completely conceals the intensely bright lamp filament, and the special corrugations properly break up and distribute the light.



Cat. No.	DIMENSIONS, INCHES Width Height Depth	Size Holder Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
600	10 7 5/8 9 3/8	3 1/4 A	12	35	\$6.00

No. 610 X-Ray Jupiter Reflectors

For 150-watt Mazda C Lamps



Designed for the brilliant illumination of show windows where height equals about twice their depth. A high temperature backing is used which indefinitely withstands the intense heat of the lamp.

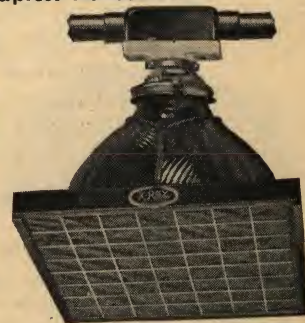
Made of corrugated blown glass with reflecting surface of pure silver, green finish outside.

Cat. No.	DIMENSIONS, INCHES Width Height Depth	Size Holder Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
610	10 7 5/8 10 1/8	3 1/4 A	12	35	\$6.00

No. 66 X-Ray Color Rays

For Jove and Jupiter Reflectors

Consists of one color frame, harness for attaching to reflector and four color screens; one each of the standard shades of red, amber, green and blue. The color frame can be attached in a few seconds and the color slides may be slipped in and out of the frame without disturbing it. Color screens are made of gelatin supported by a screen of fine steel strips.



Cat. No.	Size Inches	Std. Pkg.	Price Complete
66	10 1/8 x 10 7/8 x 1 1/4	10	\$5.00



No. H-199 X-Ray Hoodette Reflectors

For 15 and 25-watt G-18½ Medium Screw Base Mazda B Lamps



Designed for lighting low, shallow windows, outside display cases, wall cases, etc. The light is so controlled that while sufficient light is directed toward the back of the case, the greater part is directed downward and brilliantly illuminates the lower part. No. H-199 includes reflector, socket with cover, and reflector holder attached to socket shell. Black finish.

When installing, the wires are brought up back of the case and enter an outlet box at the top. The switch for controlling the lamps is concealed at one end.

Cat. No.	DIMENSIONS, INCHES			Holders Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	Width	Depth	Height				
H-199	3½	5¾	4½	Special 10	14		\$4.75

No. S-200 X-Ray Scoopette Reflectors

For 15 and 25-watt G-18½ Medium Screw Base Mazda B Lamps

The Scoopette was designed for show case lighting. Any show case can be lighted with it. This unit offers the least possible obstruction to a clear view of the interior of the case, gives even and efficient illumination with complete concealment of the lamp, low current consumption and maintenance, smallest amount of heat and absolute safety from fire risks. No. S-200 includes reflector, socket and cover, housing for reflector, and special clip to hold reflector in place. Black nickel finish.



Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	Height Inc. Socket	Depth Front to Back				
S-200	4½	3¾		10	7	\$4.75

Complete Outfits

Complete assortments of finished material necessary for equipping square-end show cases of various sizes with any number of Scoopettes specified are regularly supplied. Material includes a special insulating joint, a push button switch, a special switch box, which is easily installed, all tubing, elbows, T-fittings, Scoopettes, straps or brackets for supporting tubing, cap for end of tubing and sufficient special flexible No. 18 stranded wire to wire entire case. Prices do not include assembling, wiring, installing or lamps.

No. Scoopettes per Case	LENGTH OF CASE, FEET		7 to 9	9 to 11	11 to 13	13 to 15
	3 to 5	5 to 7				
2	\$24.85	\$25.85				
3	30.75	*31.70	\$32.65			
4	36.70	37.60	*38.55	\$39.50		
5		43.50	44.55	45.40	\$46.35	
6			50.45	51.30	52.25	\$53.20
7			56.35	57.20	58.15	59.10
8				63.10	64.05	65.00
9				69.00	69.95	70.90
10				74.90	75.85	76.80

The charge for bending tubing for a case with a single curved end is \$2.50 and for a case with two curved ends is \$3.25. *Standard package outfits.

Method of Installing

Floor Entrance, for Wood Frame Cases

The feed wires enter from underneath the floor of case extending up through the flexible conduit, which is concealed back of one of the front corner posts. Floor entrance outfits can be supplied for same prices as back entrance outfits.

Back Entrance, for All-plate Cases

Feed wires are brought up one of the back posts; tubing extends across the case inside at the top at one end, being connected to the front tube with an elbow. This is a most satisfactory method, as it is not necessary to disturb the trim, move the case or tip it over.

No. 33 X-Ray Show Window Flood Lights



The No. 33 window flood light lights the entire window with a flood of direct light from the 200-watt Mazda C lamp, and concentrates a powerful beam of light in the center of this flood. The purpose of this concentrated beam is to high-light one article in the display without a sharp ring or cut-off of light, and so this

high intensity fades away gradually.

It is an inexpensive method of lighting small windows where no other reflector equipment is used.

In windows already wired with reflector equipment it raises the light intensity at one point as compared to the balance of the window.

Regularity furnished with a color frame and four pieces of colored gelatin—red, blue, green and amber. The frame clips on the reflector when color flood lighting is used. Frame and color mediums can be omitted when orders so specify.

All metal parts are finished X-Ray green to match backing on the X-Ray Reflector.

Height over all, 11 inches. Diameter of color frame, 11½ inches.

Furnished complete as shown, with swivel supporting base, socket holder, No. 800 reflector, color frame and four pieces of colored gelatin—red, blue, green, and amber, same as used in No. 66 Color Ray.

Standard package, 1.

Price, No. 33, Complete..... each \$15.00
 " " 33, without Color Frame and Gelatins. " 12.00

No. 303 Portable Flood Lights

No. 303 consists of the regular No. 33 Flood Light mounted on a portable stand.

Price, No. 303, Complete..... each \$25.50
 " " 303, without Color Frame and Gelatins " 22.00

No. 88 Hippo X-Ray Show-window Flood Lights

With Center Spotbeam



The Hippo Show Window Flood Light with Center Spotbeam has been designed to concentrate a powerful center spot beam over a small area, which fades away into the light given out over the greater area. It is a powerful light using either the 300, 400 or 500-watt P. S. bulb, mogul base lamp.

It is designed for use in large windows where it is desirable to throw a light of a high intensity, on some one center display.

No color equipment is provided for this flood light.

Cat. No.	88
Base.....inches	5½
Depth....."	14
Diameter....."	14
Height....."	11
Std. Pkg.	1
Price.....each	\$25.00

No. 808 Portable Flood Lights

No. 808 consists of the regular No. 88 Flood Light mounted on a portable stand.

No color equipment is furnished for this style.

Price, No. 808.....each \$34.00



No. 4801 X-ray Curtis Indirect Lighting Fixtures

Has a steel bowl which is finished only in washable cream enamel. The diameter of the bowl is 14 inches and its depth, 6 inches.

Furnished complete with 36-inch suspension chain and No. 14 wire, but comes unwired and unassembled.

Each luminaire is packed in a separate carton ready for immediate delivery.

This unit gives indirect lighting effects and is especially suited to use in offices, schools, stores, etc.

Prices upon application.



Cat. No.	No. of Lamps	Size in Watts	Cat. No.	No. of Lamps	Size in Watts
4801V	1	100 or 150	4801M	1	300, 400, 500
4801W	1	200	.....	.....	.....

No. 5801 X-ray Curtis Indirect Lighting Fixtures

Has opal glass bowl, with gloss finish, containing an X-ray reflector which seats in the lip of the glass bowl and keeps dust and dirt from getting inside.

Fitted in the bowl at the bottom of the X-ray reflector is a small diffuser cup which allows a small part of the light from the lamp to come into the bowl and softly light it.

The metal parts are steel and are finished in monumental bronze. Furnished with 36-inch suspension and No. 14 wire, but comes unwired and unassembled.

Each luminaire is packed in a carton ready for immediate delivery. This fixture is slightly more decorative than No. 4801 and finds its application in a wide range of interiors.

Prices upon application.



Cat. No.	Diam. Bowl Inches	Depth Bowl Inches	No. of Lamps	Size in Watts
5801V	12	6 1/2	1	100 or 150
5801W	12	6 1/2	1	200
5801M	16	8	1	300, 400, 500

No. 5000 X-ray Curtis Indirect Lighting Fixtures



Has a brass bowl with silvertone finish. This design produces indirect light like daylight and is especially suitable for homes.

Furnished complete with wire and pull switch, but unwired and unassembled. This unit contains two X-ray reflectors which may be adjusted to fit any size of lamp from 75 to 150 watts capacity.

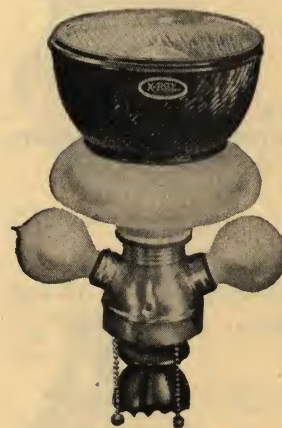
One lamp may be controlled from a pull switch at the fixture while the other may be controlled at the wall.

Each luminaire is packed in a separate carton ready for immediate delivery.

Cat. No.	Diam. Bowl In.	Depth Bowl In.	No. of Lamps	Size Lamps Watts
5000	15 1/2	4 1/8	2	75, 100, 150

Price upon application.

No. 3000 X-Ray Curtis Adapters



The purpose of No. 3000 X-Ray Curtis Adapter is to make the ordinary floor or art lamp a useful as well as ornamental lighting fixture. It consists of a silvered glass X-ray reflector mounted on an opal glass diffuser. Beneath this is a heavy brass socket which will accommodate two small frosted bulbs for local lighting as well as the larger lamp inside the reflector. The reflector is designed to use any Mazda C lamp from 75 to 200 watts capacity.

The height of the reflector can be adjusted to fit the lamp used.

Adapter Complete

The small illustration shows how the Curtis Adapter is mounted on an art lamp. The adapter lights the entire room with a glareless light. It may be applied to any lamp the top of whose shade is over 54 inches from the floor. The adapter is 9 1/2 inches high and 6 3/4 inches across the top of the reflector.



Packed one to a carton.

Adapter Mounted on Lamp

Price, No. 3000.....each \$14.00



Ivanhoe Color Globes For Window Reflectors



A new unit for show window lighting which secures spectacular, attention-compelling effects equal to the most elaborate stage-lighting. And when this unit is used in combination with modern high-efficiency Mazda Lamps, the cost of colored window lighting is brought to a low margin.

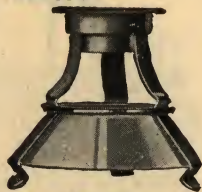
Ivanhoe Color Globes are equipped with holders adapting them for use with the following window reflectors: Ivanhoe No. BEL-100, X-Ray Jove and Jupiter, Holophane Nos. 922 and 983 and Pittsburgh Nos. 50 and 100.

Cat. No.	Description	Std. Price Pkg. Each
9990	One Complete Set of Color Globes: Red, Amber, Blue, Green.....	*3 \$4.20
9991	Red Globe.....	12 1.10
9992	Amber ".....	12 1.10
9993	Green ".....	12 1.00
9994	Blue ".....	12 1.00

No. 92 Color Globe Holders

For No. BEL100 Ivanhoe Reflector

Cat. No.	Description	Std. Price Pkg. Each
92	Holder for Ivanhoe BEL 100 Reflectors.....	12 \$.85

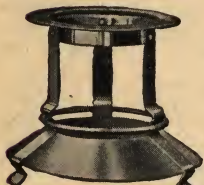


No. 92

No. 93 Color Globe Holders

For X-Ray Jove and Jupiter Reflectors

Cat. No.	Description	Std. Price Pkg. Each
93	Holder for X-Ray Jove and Jupiter Reflectors.....	12 \$.85



No. 94 Color Globe Holders

For Pittsburgh Nos. 50 and 100 Reflectors

Cat. No.	Description	Std. Price Pkg. Each
94	Holder for Pittsburgh Window Lighting Reflectors.....	12 \$.85



No. 95 Color Globe Holders

For Holophane No. 922 Reflectors

Cat. No.	Description	Std. Price Pkg. Each
95	Holder for Holophane No. 922 Window Lighting Reflectors..	12 \$.85



No. 96 Color Globe Holders For Holophane No. 983 Reflectors

Cat. No.	Description	Std. Price Pkg. Each
96	Holder for Holophane No. 983 Window Lighting Reflectors..	12 \$.85



Method of Attaching

Holder is placed in top of reflector, after which binding ring is placed in position and aluminum cone inserted. Globe snaps into bottom of holder.

*Standard package consists of 3 globes of each color.

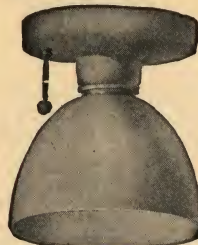


Aglite Fixtures

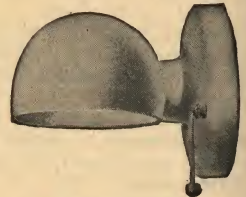
Aglite (all glass) Fixtures, with their rich marble-like appearance, are the ideal lighting units for use in bathrooms, hospitals, or wherever sanitation and cleanliness are essential. Bases are white porcelain enamel on steel. Shades are white glass. They harmonize perfectly with hospital or bathroom furnishings, and the finish is permanent.

The method of installing is simple, no insulating joint canopy insulator or splicing of wires being required. All necessary parts are furnished with the fixture; a complete unit.

Designed for use with 25 to 75-watt lamp.

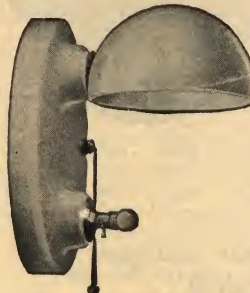


Nos. AJA and AJB



Nos. AJC and AJD

Cat. No.	Description	Shipping Wt., Lbs.	Price Each
AJA	No Switch.....	3	\$4.00
AJB	With ".....	3	5.20
AJC	No ".....	3	4.00
AJD	With ".....	3	5.20



Nos. AJH and AJI



Nos. AJE and AJF

Cat. No.	Description	Shipping Wt., Lbs.	Price Each
*AJH	No Switch.....	7	\$8.60
*AJI	With ".....	7	9.80
†AJE	No ".....	4	6.00
†AJF	With ".....	4	7.20

*2 C. P. pilot light lamp included.

†Hubbell Receptacle and plug included.

Aglite Jr. Fixtures



Type AGW



Type AGXS

These units are made of white glazed porcelain enamel on steel. Shades are of best quality white glass. Units are assembled and installed direct to house wire by means of invisible patented screw collars.

Furnished complete with shade, receptacles, switch and bridge, except lamp.

Types AGY and AGYS have extra receptacle to accommodate heating devices, etc.

Cat. No.	Description	Ship. Wt., Lbs.	Price Each
AGW	No Switch.....	2	\$3.20
AGWS	With ".....	2	3.70
AGX	No ".....	2	3.20
AGXS	With ".....	2	3.70
AGY	No ".....	3	5.50
AGYS	With ".....	3	6.00



No. 8585 Ivanhoe Glass Shades



Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
8585 R.I.	4 1/2	3 3/4	2 1/4	72	\$2.25	\$1.25

Nos. 8756-9315 Ivanhoe Glass Shades



No. 8756 R. I.



No. 9315 R. I.

Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
8756 R.I.	4 3/8	4 3/8	2 1/4	72	\$2.50	\$1.25
9315 R.I.	5	4 3/8	2 1/4	72	3.00	1.25

Nos. 9317-8840 Ivanhoe Glass Shades



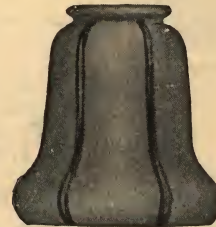
No. 9317 R. O.



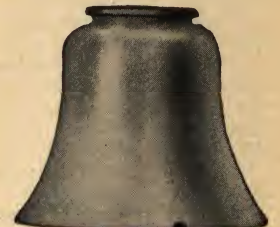
No. 8840 R. O.

Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
9317 R.O.	4 1/4	4 3/4	2 1/4	72	\$2.25	\$1.25
8840 R.O.	4 1/4	4 5/8	2 1/4	72	2.25	1.25

Nos. 8702-8533 Ivanhoe Glass Shades



No. 8702 R. I.



No. 8533 R. I.

Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
8702 R.I.	4 1/4	4 5/8	2 1/4	72	\$2.50	\$1.25
8533 R.I.	4	4 1/4	2 1/4	72	2.25	1.25

Nos. 9328-8750 Ivanhoe Glass Shades



No. 9328 R. I.



No. 8750 R. I.

Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
9328 R.I.	4 1/2	4 1/2	2 1/4	72	\$2.25	\$1.25
8750 R.I.	4 3/4	4 1/2	2 1/4	72	2.70	1.25

Nos. 8834-8600 Ivanhoe Glass Shades



No. 8834 R. I.



No. 8600 R. I.

Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
8834 R.I.	4 1/4	4 1/2	2 1/4	72	\$2.70	\$1.25
8600 6x3 1/4 R.I.	6	6	3 1/4	36	3.00	1.25
8600 7x3 1/4 R.I.	7	7 1/4	3 1/4	18	4.00	1.25
8600 8x4 R.I.	8	8 1/4	4	12	5.50	1.25

No. 8717 Ivanhoe Glass Shades

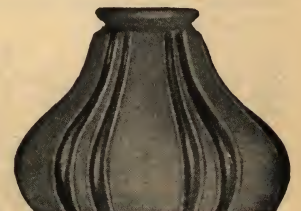


Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
8717 R.I.	4 1/2	4 1/2	2 1/4	72	\$2.25	\$1.25

Nos. 8783-8912 Ivanhoe Glass Shades



No. 8783 R. I.



No. 8912 R. I.

Cat. No.	DIMENSIONS, INCHES			Std. Pkg.	Price per Doz.	Pkg. Charge
	Diam.	Depth	Fitter			
8783 6x2 1/4 R.I.	6	3 7/8	2 1/4	72	\$3.00	\$1.25
8783 7x2 1/4 R.I.	7	4 5/8	2 1/4	48	5.00	1.25
8783 8x2 1/4 R.I.	8	5 1/4	2 1/4	36	7.00	1.25
8912 R.I.	5 7/8	4 1/4	2 1/4	72	2.75	1.25



Benjamin Wireless Stand Lamp Clusters



No. 849

Wireless stand lamp clusters furnish an easily wired unit for table and floor Lamp with the sockets and entire mechanism combined into one simple convenient device.

It is only necessary to bring two wires of the cord through cluster to binding screws and all the outlets are connected.

Clusters Complete

Clusters complete, consist of pull chain wireless cluster body, top ornament, stem with brass casing, finishing ring and 1/4-inch coupling. Coupling for 1/2-inch pipe connection No. 5099, or flange No. 5094, tapped 1/4-inch for attaching to wood, are each supplied at 5 cents above price listed. Length, approximately 8 1/2 inches from shade support to bottom of coupling.

Clusters equipped with one pull chain are arranged to switch on or off all the lamps simultaneously. Clusters with two pull

chains are arranged to control either one and one or one and two lights at each pull.

Standard finish is made Roman gold to harmonize with most fine lamps.

With Two Pull Chains

Cat. No.	No. of Lights	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
849	2	5	4 7/8	\$1.90
850	3	5	5	2.10

With One Pull Chain

839	2	5	4 7/8	\$1.65
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Clusters Only without Mounting Parts

Same as above without stem and top ornament. Top stud has 1/8-inch pipe thread and cluster is regularly tapped 1/4-inch pipe size at bottom.

With Two Pull Chains

846	2	5	2 3/4	\$1.45
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With One Pull Chain

836	2	5	2 3/4	\$1.20
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Benjamin Adjustable Stand Lamp Clusters

Benjamin Adjustable Stand Lamp Clusters have pull chain sockets which are adjustable to any angle between the horizontal and vertical.

The adjustable feature is very important. In shallow shades it is possible to have lamps in a horizontal position so that the light will not be visible to the eye. In the deeper shades, or under other circumstances, any desired angle of the lamps may be obtained.

Clusters Complete

Complete clusters as listed below are furnished regularly with stem having brass casing and coupling, No. 5098 for 1/4-inch connection; coupling for 1/2-inch pipe connection, No. 5099 or flange No. 5094 tapped 1/4-inch for attaching to wood, supplied each at 5 cents above prices listed. Length is approximately 8 1/2 inches from shade support to bottom of coupling. Standard finish is made Roman gold to harmonize with most fine lamps.

Cat. No.	No. of Lights	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
890	2	5	4 3/8	\$2.75
891	3	5	5	3.65

If 1/8-inch coupling or 1/4-inch flange is desired in place of 1/4-inch coupling, please so state in ordering.

Clusters Only—No Stems

Cluster body listed below is above cluster without stem and coupling, but with top shade support and ornament. It is regularly furnished with hickey tapped for 1/4-inch iron pipe stem but if specified on order 1/8-inch hickey will be supplied without change in price.

Cat. No.	No. of Lights	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
880	2	5	2 3/4	\$2.30
881	3	5	2 3/4	3.20



No. 890

No. 8734AC Emeralite Portable Lamps



For roll top desks. Arm is adjustable. Size of base, eight inches. Heavily weighted and felted.

Equipped with Daylight screen which modifies the glare so that natural daylight is closely approximated.

Finish, brushed brass with black relief.

Price, No. 8734AC. each \$12.00

No. 8734ECS Emeralite Portable Lamps



Fitted with perpetual calendar and Sengbusch self-closing inkwells of special pattern cut glass.

The Sengbusch well is dust-proof, non-evaporating and economical in ink consumption.

Base of lamp is 7x9 inches. Height, 18 inches.

Finish is brushed brass.

Furnished complete with pull socket, six-foot silk cord and plug.

Price, No. 8734ECS. . . . each \$23.50

No. 8734 1/2 E Emeralite Portable Lamps

This pattern is a neat and compact fixture and economizes space on desk top. Base, 7x7 1/2 inches; height, 18 inches to top of shade. Inkwell has metal cover finished to match stand,

Furnished complete with shade, pull socket, six-foot silk cord, plug and inkwell.

Finish is brushed brass with black relief.

Price, No. 8734 1/2 E. each \$15.00



No. 8734C Emeralite Portable Lamps



For double desk or table; height to top of shades, 19 inches. Efficient illumination area, 48 inches wide by 36 inches in front of each shade. Both shades are adjustable to any angle.

Complete with shades, pull sockets, six-foot silk cable and plug.

Finish, brushed brass with black relief.

Price, No. 8734C. .each \$20.00



No. 8734B Emeralite Portable Lamps

Square pattern, 7-inch base, for flat top desk or table.

Height to top of shade, 18 inches. Illumination area 48 inches wide by 30 inches in front of base.

With white porcelain lined green glass shade and fitted with Daylight screen.

Furnished complete with shade, pull socket, plug and six-foot cord.

Finish is brushed brass, black relief.

Price, No. 8734B....each \$12.00



No. 8734G Emeralite Portable Lamps

With adjustable arm. For use on roll top desk. Size of base, 7 inches square.

The Emeralite shade is made of rich emerald green glass, white porcelain lined. Fitted with Daylight screen.

Furnished complete with shade, pull socket, plug and 6 feet of cord.

Price, No. 8734G, Brushed Brass with Black Relief ea. \$12.00



No. 8734K Emeralite Portable Lamps

For flat top desks.

Base is 8 inches in diameter. Height to top of shade, 18 inches; shade is adjustable.

Finish, brush brass with black relief or statuary bronze.

Price, No. 8734K, Brush Brass Finish.....each \$12.00

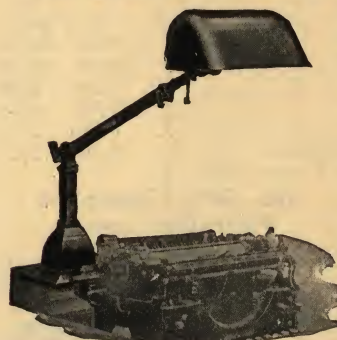
Price, No. 8734K, Bronze Finish.....each 13.00



No. 8734TW Emeralite Portable Lamps

A most efficient and practical fixture for stenographer's and flat-top desks. The base is covered with felt and held securely in place by means of special adjustable clamp at rear, clamping against underside of desk top. The arm and shade can be adjusted to any angle; and arm has extension adjustment to accommodate various widths of desks. Base, 4 inches square. Arm does not interfere with opening and closing of desk.

Price, No. 8734TW.....each \$14.00



No. 8734H Emeralite Portable Lamps

An artistic pattern in colonial design, for flat top desks or tables.

Base is 8 inches in diameter.

Height to top of shade, 17½ inches.

Finish, brush brass or statuary bronze.

Price, No. 8734H, Brush Brass Finish.....each \$12.00

Price, No. 8734H, Bronze Finish.....each 13.00



No. 8734AM Emeralite Machine Lamps



For adding, posting and calculating machines supported by bracket which clamps leg of 1-inch tubular or U section stands.

The light can be adjusted in such a manner as to eliminate the glare reflected from keyboard and will also illuminate keys, platen, and shelf of any machine of the type illustrated. Equipped with rich, emerald green glass shade, white porcelain-lined.

Daylight attachment is recommended for all machine lighting.

This lamp has vertical and horizontal adjustments.

Finish: Black enamel.

The No. 8734AM is furnished complete with bracket and 9-foot cord.

Price, No. 8734AM, Complete as Described...each \$13.00

No. 0675/5774 Emeralite Portable Lamps

A compact and practical fixture for radio receivers and other uses, where a fixture of this type is suitable.

This lamp is not furnished with Daylight attachment.



Price, No. 0675/5774, Brass Finish.....each \$7.50
" " 0675/5774, Bronze " " " 8.50



Emeralite Junior Adjustable Lamps



This practical little lamp will clamp, stand or hang any place, and will be found exceedingly useful in any home. It is desirable as a study or reading lamp for children; for the boudoir, or for use on side shelf of grand piano, dressing table or nursery.

The shade can be tilted to any position and, no matter how adjusted, the eyes are always protected from the direct glare of the lamp. Any standard electric lamp can be used.

Base is heavily weighted and felted, and contains an efficient clamp.

Total height of lamp, 12 inches; glass shade, 6 inches diameter.

Description	PRICE, EACH	
	Brass	Bronze
Green Shade	\$6.50	\$7.50
Buff "	7.00	8.00
" Decorated Shade	7.00	8.00
Old Ivory Green "	6.50	.....
" " Buff Decorated Shade	7.00	.....

No. 0673 Emeralite Portable Lamps



A small reading lamp. Shade is 10 inches in diameter; height, 17½ inches.

Has 6-inch base, weighted and felted.

Furnished complete with green glass shade, holder, key socket and 6-foot cord for use with one 60-watt or smaller lamp.

Finished in old gold or statuary bronze.

Price, No. 0673, Old Gold each \$8.00
Price, No. 0673, Bronze " 9.00

Emeralite Portable Lamps



Daylight Screen

The Emeralite Shade is made of a rich emerald green glass, plated inside with a white opal glass and made the proper shape to give the most efficient distribution of light, protecting the eyes from all glare and strain. The smooth glass shade will not tarnish or collect dust. All Emeralites designated by No. 8734 are fitted with new type holder and shade which can be detached without disturbing electric wiring. The standards and fixtures are all carefully made of the best materials, heavily weighted and felted. All shades are adjustable to any angle and will accommodate any standard Edison electric lamp up to 60-watt size. All portables furnished complete with shade, pull socket, plug and six feet of cord.

The Daylight Screen consists of a patented glass filter, completely concealed from view, which modifies the glare and closely approximates daylight. Daylight attachments are now included with all No. 8734 Emeralites without extra charge.



No. 0615M Emeralite Portable Bed Lamps

Can be attached to any round or square, vertical or horizontal bed post, of any diameter, regularly furnished with clamp to fit posts from 1 to 2¼ inches diameter, larger clamps to order. Clamp is felt-lined and operated by thumb-screw in end of fixture.

No. 0615M, for metal and No. 0615R, for wood beds. Satin brass finish.

Price, No. 0615M, ea \$8.00
" " 0615R. " 8.00

Play-O-Lite Piano Lamps

Made of metal grained in standard wood finishes also brush brass. Felt lining protects the surface of the piano. Has pull chain socket. Furnished with 8 feet of silk cord and a swivel plug.

Standard package 12.

Type S, standard for pear-shaped electric bulb up to 25 watts.

Type T for T-10 tubular bulb only.

Price, Either Type, without Bulb.....each \$5.00

Adjusto-Lites

Made of solid brass in four finishes: Brass, bronze, nickel and white enamel.

Durable and handsome.

The Adjusto-Lite stands 12½ inches high with 5-inch by 3-inch base.

Shade is 5¼ inches in diameter.

An eight-foot cord with push button socket and two-piece plug is attached to every lamp.

Sold with a five-year guarantee.

The lamp clamps, stands or hangs anywhere. Clamp is felt lined.

Price, Brass Finish.....each \$3.95
" Bronze or Nickel Finish..... " 4.45



Wallace Portable Adjustable Lamps



This lamp stands, hangs, clamps anywhere it is put. It may be tilted at any angle, twisted in any direction, and the shade adjusted to reflect the light where it is wanted.

A handy lamp for traveling, as it may be folded up. It weighs only a pound and takes up but little room.

Has Benjamin Swivel Plug. Furnished with 8-foot cord.

Approved by the Underwriters.

Price, Brushed Brass and Mahogany Bronze.....each \$2.50
" Verde Antique " Nickel..... " 2.75
" Crackle Enamel and Decorated Mahogany Bronze.....each 3.00



No. 45 Dim-A-Lamp Portables

This lamp is simple in operation. Pushing the stem down will open a clamp, pushing the stem up will clamp the lamp securely on round, square or flat surfaces. Will also hang or stand anywhere. The adjustable shade and socket provide for light at any angle. Standard finishes are brush brass, bronze or ivory. It is furnished with separable plug, Dim-a-lite Socket and 8-foot cord.



Gives five changes of light and saves 30 to 80 per cent current.

Finish	Std. Pkg.	Wt., Lbs.	Price Each
Brush Brass.....	12	23	\$4.50
Ivory.....	12	23	5.00
Bronze.....	12	23	5.00

Add 10 cents to list price for 32-volt and 220-volt Dim-a-lamps.

Buss Clamp-O-Set Lamps



This lamp can be used for every purpose. It may be clamped or hung anywhere and is an artistic stand lamp that is neat and attractive. Not just a clamp lamp contraption.

Base plate screws in and out to clamp anywhere. Works like a vise. Slotted hole permits lamp to be hung on hook or nail. A touch of the hand adjusts the bulb or shade to any position.

Lamp is 11 inches high. Complete with extra long 9-foot cord and combination plug. Made in three finishes at the same price, bronze, brass or ivory.

Price, without Bulb.....each \$2.00

Greist Juniorlite Adjustable Lamps

This lamp is particularly useful as a bed or boudoir lamp and the choice of many beautiful finishes make it possible to obtain a lamp that will harmonize with the color scheme of any room.

The shade will effectively protect the eyes from the light rays in whatever position the lamp is used.

Price, Brushed Brass and Mahogany Bronze.....each \$4.50
Price, Verde Antique, Ivory Enamel, Statuary Bronze.....each 5.00

Price, Decorated Brass, Decorated Ivory, Decorated Statuary Bronze, Crackle Enamel Crystalline.....each 5.50
Price, Decorated Crystalline.. " 6.00



Greist Do-all Lamps



Rubber cushion on base to prevent scratching of polished surfaces.

Has large hook to adjust to any position. Small hook to hang on wall or bracket.

Separable plug. Key socket. Adjustable oval shade.

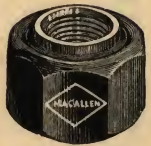
Has 6 1/2-inch double adjustable arm. Furnished with 8-foot cord. Heavy base, hook and eye folding into same.

Price, Brush Brass or Mahogany Bronze.....each \$5.00
" Verde or Statuary Bronze..... " 6.00

Macallen Blank Insulating Joints

For Externally Wired Fixtures

Cat. No.	Thread Inches	Price Each	Cat. No.	Thread Inches	Price Each
7739	1/8x1/8	\$.72	7703	3/8x3/8	\$.72
7740	1/4x1/8	.72	7704	1/2x1/8	1.00
7700	1/4x1/4	.72	7705	1/2x1/4	1.00
7701	3/8x1/8	.72	7706	1/2x3/8	1.00
7702	3/8x1/4	.72	7707	1/2x1/2	1.00



Macallen Blank Joints For Externally Wired Fixtures

Cat. No.	Size In.	Price Each
7701	3/8x 1/8	\$.72
7702	3/8x 1/4	.72
7703	3/8x 3/8	.72
7704	1/2x 1/8	1.00
7705	1/2x 1/4	1.00
7706	1/2x 3/8	1.00
7707	1/2x 1/2	1.00
7708	3/4x 3/8	2.50
7709	3/4x 1/2	2.50
7710	3/4x 3/4	2.50
7711	1 x 1/2	3.50
7712	1 x 3/4	3.50
7713	1 x 1	3.50
7714	1 1/4x1 1/4	7.50
7715	1 1/2x1 1/2	12.00
7716	2 x 2	18.00



Plain Joint

Male and Female

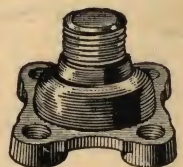
Cat. No.	Size In.	Price Each
7721	3/8 F x 1/8 M	\$.72
7722	3/8 F x 1/4 M	.72
7723	3/8 F x 3/8 M	.72
7724	1/2 F x 1/8 M	1.00
7725	1/2 F x 1/4 M	1.00
7726	1/2 F x 3/8 M	1.00
7727	1/2 F x 1/2 M	1.00
7734	3/8 M x 1/8 F	.72
7735	3/8 M x 1/4 F	.72
7728	3/4 F x 3/8 M	2.90
7729	3/4 F x 1/2 M	2.90
7730	3/4 F x 3/4 M	2.90
7731	1 F x 1/2 M	4.00
7732	1 F x 3/4 M	4.00
7733	1 F x 1 M	4.00
7736	1/2 M x 1/8 F	1.00
7737	1/2 M x 1/4 F	1.00
7738	1/2 M x 3/8 F	1.00



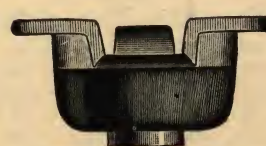
Macallen Insulated Fixture Studs

WITHOUT HICKEY			WITH HICKEY		
Cat. No.	Size Inches	Price Each	Cat. No.	Size Inches	Price Each
1335	1/8	\$.75	1329	1/8	\$.81
1339	1/4	.75	1330	1/4	.81
1340	3/8	.80	1334	3/8	.89

These fixture studs fit standard outlet boxes.



Macallen Insulated Crowfeet



Cat. No.	Size In.	Price Each
1401	1/8	\$.90
1402	1/4	.90
1403	3/8	.90
1404	1/2	1.20
1405	3/4	2.50

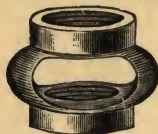
Macallen Insulating Joints For Air Brake and Power Equipment



Composition Brass		
Cat. No.	Size In.	Price Each
1601	1/4x1/4	\$1.50
1602	3/8x3/8	2.00
1603	1/2x1/2	4.50
1604	3/4x3/4	7.00
1605	1 x 1	\$12.00
1606	1 1/4x1 1/4	20.00
1607	1 1/2x1 1/2	32.00
1608	2 x 2	60.00



Macallen Malleable Iron Hickeys



Cat. No.	Size In.	Price per 100	Cat. No.	Size In.	Price per 100
1450	$\frac{1}{8} \times \frac{1}{8}$	\$6.00	1463	$\frac{1}{2} \times \frac{3}{8}$	\$12.00
1451	$\frac{1}{4} \times \frac{1}{8}$	6.00	1456	$\frac{1}{2} \times \frac{1}{2}$	14.00
1452	$\frac{1}{4} \times \frac{1}{4}$	6.00	1597	$\frac{3}{4} \times \frac{3}{8}$	28.00
1453	$\frac{3}{8} \times \frac{1}{8}$	8.00	1464	$\frac{3}{4} \times \frac{1}{2}$	30.00
1454	$\frac{3}{8} \times \frac{1}{4}$	8.00	1457	$\frac{3}{4} \times \frac{3}{4}$	35.00
1455	$\frac{3}{8} \times \frac{3}{8}$	9.00	1465	1 x $\frac{3}{4}$	40.00
1461	$\frac{1}{2} \times \frac{1}{8}$	12.00	1458	1 x 1	45.00
1462	$\frac{1}{2} \times \frac{1}{4}$	12.00	....	.....	.....

Macallen Male and Female Hickeys

Both Ends Tapped For Standard Iron Pipe Sizes

Malleable Iron



Cat. No.	Size Inches	Price Each
1517	$\frac{1}{8} \text{F.} \times \frac{1}{8} \text{M.}$	\$.06
1518	$\frac{1}{8} \text{F.} \times \frac{1}{4} \text{M.}$	.06
1535	$\frac{1}{8} \text{F.} \times \frac{3}{8} \text{M.}$	.08
1519	$\frac{1}{4} \text{F.} \times \frac{1}{8} \text{M.}$	.06
1520	$\frac{1}{4} \text{F.} \times \frac{1}{4} \text{M.}$	.06
1536	$\frac{1}{4} \text{F.} \times \frac{3}{8} \text{M.}$	.08
1537	$\frac{3}{8} \text{F.} \times \frac{1}{8} \text{M.}$	.08
1538	$\frac{3}{8} \text{F.} \times \frac{1}{4} \text{M.}$	.08
1539	$\frac{3}{8} \text{F.} \times \frac{3}{8} \text{M.}$	.09
1540	$\frac{3}{8} \text{F.} \times \frac{1}{2} \text{M.}$	.12
1586	$\frac{1}{2} \text{F.} \times \frac{1}{8} \text{M.}$	.12
1587	$\frac{1}{2} \text{F.} \times \frac{1}{4} \text{M.}$	.12
1588	$\frac{1}{2} \text{F.} \times \frac{3}{8} \text{M.}$	.12
1589	$\frac{1}{2} \text{F.} \times \frac{1}{2} \text{M.}$	.14

Male End Solid Plug—Female Open

Malleable Iron

Cat. No.	Size In.	Price Each	Cat. No.	Size In.	Price Each
1380	$\frac{1}{8} \text{M.} \times \frac{1}{8} \text{F.}$	\$.06	1398	$\frac{1}{4} \text{M.} \times \frac{3}{8} \text{F.}$	\$.08
1388	$\frac{1}{8} \text{M.} \times \frac{1}{4} \text{F.}$	.06	1421	$\frac{3}{8} \text{M.} \times \frac{1}{8} \text{F.}$	.08
1389	$\frac{1}{8} \text{M.} \times \frac{3}{8} \text{F.}$	.08	1422	$\frac{3}{8} \text{M.} \times \frac{1}{4} \text{F.}$	.08
1390	$\frac{1}{4} \text{M.} \times \frac{1}{8} \text{F.}$	.06	1423	$\frac{3}{8} \text{M.} \times \frac{3}{8} \text{F.}$	.09
1394	$\frac{1}{4} \text{M.} \times \frac{1}{4} \text{F.}$	.06	....	.....	....

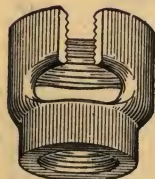
Both Ends Female—With Pipe Cap End

Malleable Iron

Cat. No.	Size In.	Price Each	Cat. No.	Size In.	Price Each
1566	$\frac{3}{8} \text{ Cap } \times \frac{1}{8} \text{ Stem}$	\$.10	1568	$\frac{3}{8} \text{ Cap } \times \frac{3}{8} \text{ Stem}$	\$.14
1567	$\frac{3}{8} \text{ " } \times \frac{1}{4} \text{ "}$	.12	....	.....	....

Macallen Slotted Hickeys

Malleable Iron



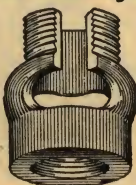
Cat. No.	SIZE END, IN.	Price Each	Cat. No.	SIZE END, IN.	Price Each
2060	$\frac{1}{8} \times \frac{1}{8}$	\$.09	2065	$\frac{3}{8} \times \frac{3}{8}$	\$.12
2061	$\frac{1}{4} \times \frac{1}{8}$	.09	2066	$\frac{1}{2} \times \frac{1}{8}$	.15
2062	$\frac{1}{4} \times \frac{1}{4}$	.09	2067	$\frac{1}{2} \times \frac{1}{4}$	.15
2063	$\frac{3}{8} \times \frac{1}{8}$	.12	2068	$\frac{1}{2} \times \frac{3}{8}$	.15
2064	$\frac{3}{8} \times \frac{1}{4}$	.12	2069	$\frac{1}{2} \times \frac{1}{2}$	.18

Macallen Male and Female Slotted Hickeys

Male End Slotted—Female Solid

Malleable Iron

Cat. No.	SIZE END, IN.	Price Each	Cat. No.	SIZE END, IN.	Price Each
2070	$\frac{1}{4} \times \frac{1}{8}$	\$.09	2074	$\frac{3}{8} \times \frac{3}{8}$	\$.12
2071	$\frac{1}{4} \times \frac{1}{4}$	.09	2075	$\frac{1}{2} \times \frac{3}{8}$	.15
2072	$\frac{3}{8} \times \frac{1}{8}$	.12	2076	$\frac{1}{2} \times \frac{1}{2}$	.18
2073	$\frac{3}{8} \times \frac{1}{4}$	.12	....	.....	....



Macallen Round Canopy Insulators

Designed to go between the canopy and the wall, or ceiling where combination or straight electric fixtures are installed in buildings that are constructed with metallic lathing, or where there are metal ceilings or walls used. Made of a special compound that is thoroughly waterproof, strong, durable, and of the highest insulating qualities.



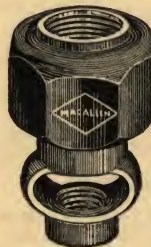
Dimensions given in bold face type are sizes of canopies that will fit inside of the outer projection. Dimensions given in light face type are sizes of canopies that will fit over the inner projection.

Size Inches	and	STANDARD BROWN COMPOUND Cat. No.	Price Each	WHITE COMPOUND Cat. No.	Price Each
$\frac{3}{8}$	$\frac{3}{4}$	B15	\$.26	W15	\$.42
$\frac{3}{7}$	" 4	B16	.28	W16	.44
$\frac{4}{1}$	" $\frac{4}{1}$	B17	.30	W17	.46
$\frac{4}{3}$	" $\frac{4}{2}$	B18	.32	W18	.48
$\frac{4}{5}$	" $\frac{4}{3}$	B19	.34	W19	.52
$\frac{4}{7}$	" 5	B20	.36	W20	.56
$\frac{5}{1}$	" $\frac{5}{1}$	B21	.40	W21	.60
$\frac{5}{3}$	" $\frac{5}{2}$	B22	.44	W22	.64
$\frac{5}{5}$	" $\frac{5}{3}$	B23	.48	W23	.68
$\frac{5}{6}$	" 6	B24	.52	W24	.72

Prices on other sizes on request.

Macallen Insulating Joints

Electrolier or Separable Joints With Iron Hickey



Cat. No.	Size In.	Price Each	Cat. No.	Size In.	Price Each
7601	$\frac{3}{8} \times \frac{1}{8}$	\$.78	7607	$\frac{1}{2} \times \frac{1}{2}$	\$1.14
7602	$\frac{3}{8} \times \frac{1}{4}$	.78	7608	$\frac{3}{4} \times \frac{3}{8}$	3.00
7603	$\frac{3}{8} \times \frac{3}{8}$	.80	7609	$\frac{3}{4} \times \frac{1}{2}$	3.05
7604	$\frac{1}{2} \times \frac{1}{8}$	1.08	7610	$\frac{3}{4} \times \frac{3}{4}$	3.25
7605	$\frac{1}{2} \times \frac{1}{4}$	1.08	7611	1 x $\frac{3}{4}$	4.35
7606	$\frac{1}{2} \times \frac{3}{8}$	1.09	7612	1 x 1	4.45

Electrolier or Separable Joints With Hickeys Tapped Brass Tube Sizes

Brass tubing sizes given are outside measurements, and are tapped to Macallen's standard sizes.

Cat. No.	Size Inches	Price Each
7631	$\frac{3}{8}$ Iron x $\frac{3}{8}$ Brass	\$.80
7632	$\frac{3}{8}$ " x $\frac{7}{16}$ "	.80
7633	$\frac{3}{8}$ " x $\frac{1}{2}$ "	.80
7634	$\frac{3}{8}$ " x $\frac{5}{8}$ "	.84
7635	$\frac{1}{2}$ " x $\frac{3}{8}$ "	1.08
7636	$\frac{1}{2}$ " x $\frac{7}{16}$ "	1.10
7637	$\frac{1}{2}$ " x $\frac{1}{2}$ "	1.10
7638	$\frac{1}{2}$ " x $\frac{5}{8}$ "	1.12



Macallen Joints for Combination Fixtures



No. 7501

Cat. No.	Size In.	Price Each	Cat. No.	Size In.	Price Each
7501	$\frac{3}{8} \times \frac{1}{8}$	\$.72	7509	$\frac{3}{4} \times \frac{1}{2}$	\$2.50
7502	$\frac{3}{8} \times \frac{1}{4}$	.72	7510	$\frac{3}{4} \times \frac{3}{4}$	2.50
7503	$\frac{3}{8} \times \frac{3}{8}$	.72	7511	1 x $\frac{1}{2}$	3.50
7504	$\frac{1}{2} \times \frac{1}{8}$	1.00	7512	1 x $\frac{3}{4}$	3.50
7505	$\frac{1}{2} \times \frac{1}{4}$	1.00	7513	1 x 1	3.50
7506	$\frac{1}{2} \times \frac{3}{8}$	1.00	7514	$1 \frac{1}{4} \times \frac{1}{4}$	7.50
7507	$\frac{1}{2} \times \frac{1}{2}$	1.00	7515	$1 \frac{1}{2} \times \frac{1}{2}$	12.00
7508	$\frac{3}{4} \times \frac{3}{8}$	2.50	7516	2 x 2	18.00



Sectional View

We are New England Distributors
for
THE NATIONALLY ADVERTISED LINE
of

Hotpoint
SERVANTS



They Comprise a Complete Line
of
**ELECTRICAL HOUSEHOLD
UTILITIES**

Produced by America's Leading Manufacturers,
The Edison Electric Appliance Manufacturing Co.

Into their products this company puts a degree of excellence in design and efficiency that is unequalled.

Back of the line is an aggressive advertising policy that results in the greatest salability that is enjoyed by any group of electrical products of this nature.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Hotpoint Standard Domestic Irons

100, 110, 120, 200, 220, 240 Volts



The iron with the Hotpoint, cantilever handle, hinged plug, cool handle and attached stand. Heating unit is in two sections, arranged V-shape on the soleplate. The sections meet at the point of the iron, thus supplying most heat where most is needed, because in use, the point is pushed forward into the damp

goods. Top is pressed steel. Finish, polished nickel. Has cord and detachable contact-plug. The cantilever handle is an additional convenience which lessens the strain of ironing.

Cat. No.	Wt. Lbs. Each	Watts	Size Inches	Std. Pkg.	Price Each
113F22	3	330	3 $\frac{1}{8}$ x5 $\frac{1}{16}$	3	\$5.25
115F50	5	500	3 $\frac{5}{8}$ x6 $\frac{1}{4}$	3	6.50
115F51	6	575	4 x6 $\frac{3}{4}$	6	6.75
*115F57	6	575	4 x6 $\frac{3}{4}$	1	7.50

*32-volt only.

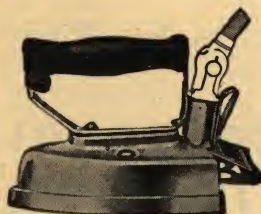
Hotpoint Automatic Irons

100, 110, 120, 200, 220, 240 Volts

The automatic iron has all the distinctive features of the other Hotpoint Irons with an automatic control which automatically cuts off the current when the highest ironing temperature is reached.

Approved by Underwriters' Laboratories.

The current is restored by merely pushing in the switch button located on the side of the iron just under the handle.



Cat. No.	Wt. Lbs. Each	Watts	Size Inches	Std. Pkg.	Price Each
115F59	6	575	4x6 $\frac{3}{4}$	3	\$8.95

Edison Family Irons

100, 110, 120, 200, 220, 240 Volts
Nickel-plated, fitted with attached stand. Parts are standard and interchangeable. Furnished complete with cord and plug. Size, 4x6 $\frac{3}{4}$ inches.



Cat. No.	Wt. Lbs. Each	Watts	Std. Pkg.	Price Each
215F56	6	575	6	\$5.00

Hotpoint Adjustable Voltage Irons

Same design and general appearance as the standard domestic iron but is provided with unique contrivance which permits adjustment of voltage capacity, affording a range of from 100 to 125 when set for 110-volt circuit and from 200 to 250 when set for 220-volt circuit. This adjustment is very simple—merely a guard and indicator, the former to prevent iron being used on circuits other than that indicated by the indicator. Equipped with cord, lamp socket attachment plug and interchangeable contact plug.



Cat. No.	Wt. Lbs. Each	Watts	Size Inches	Std. Pkg.	Price Each
113F21	3	330*	3 $\frac{1}{8}$ x5 $\frac{1}{16}$	1	\$8.50

*At normal voltages of 110-220.

Hotpoint Separate Stand Irons

Furnished in 100, 110, 120, 200, 220 and 240 volts.

Has no heel stand but a separate nickel-plated stand, No. CS3, is provided and included in price.

Catalogue number 115F52 has blue base finish.

Catalogue number 115F53 has nickel base finish.



Cat. No.	Watts	Soleplate Inches	Std. Pkg.	Wt. Lbs.	Price Each
115F52	575	4x6 $\frac{3}{4}$	3	6	\$6.75
115F53	575	4x6 $\frac{3}{4}$	3	6	6.75

Price, CS3, Stand onlyeach \$1.80

Hotpoint Boudoir Sets

100, 110, 120, 200, 220, 240 Volts



Consists of a 3-pound beveled edge iron, inverted stand to convert the iron into a small electric stove; hole in rear of iron top for the iron to heat curling-tongs or a marcel-waver. The set telescopes and fits compactly into the colored cloth bag furnished with outfit. All parts finished in highly polished nickel.

Equipped with cord, lamp socket attachment plug, and detachable contact-plug.

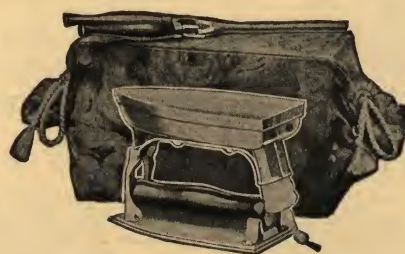
Operates on either alternating or direct current.

No. 113S10 set is contained in a box which when unfolded becomes an ironing board.

Cat. No.	Wt. Lbs. Each	Watts	Size Inches	Std. Pkg.	Price Each
113S12	3 $\frac{5}{8}$	330	4 $\frac{1}{4}$ x3 $\frac{1}{4}$ x7	3	\$6.95
113S10	4 $\frac{3}{8}$	330	4 $\frac{1}{2}$ x4 $\frac{1}{2}$ x9 $\frac{1}{2}$	3	7.95

Hotpoint Utility Ironing Sets

100, 110, 120, 200, 220, 240 Volts



Packed in a cloth covered box, which serves as an ironing board when opened up and laid flat.

Consists of a 3-pound beveled edge Hotpoint iron; inverted stand to convert the iron into a small electric stove and folding curling tongs. Curling tongs are inserted in a hole in back of iron for heating. The set fits compactly into the box. All parts are finished in highly polished nickel.

When ordering give catalogue number and name.

Cat. No.	Watts	Dimensions Inches	Std. Pkg.	Net Wt., Lbs.	Price Each
113S10	330	4 $\frac{1}{2}$ x4 $\frac{1}{2}$ x9 $\frac{1}{2}$	3	4 $\frac{3}{8}$	\$7.95



Hotpoint Polishing Irons

100, 110, 120, 200, 220, 240 Volts



This iron has the cantilever handle, hinged plug, cool handle, and separate nickel-plated stand. The point and rear edge of the soleplate are rounded.

Heating unit is in two sections arranged V-shape on the soleplate. Top is pressed steel. Finish, polished nickel.

Furnished with cord and detachable contact-plug. The cantilever handle makes ironing easier. Operates on either alternating or direct current.

Cat. No.	Wt., Lbs. Each	Watts	Std. Pkg.	Price Each
115F54	5	500	1	\$7.25
115F55	6	575	1	7.50

Hotpoint Laundry Irons

110, 120, 220, 240 Volts

Has no attached stand. In other respects it differs from the domestic sizes in weight only. Fitted with cantilever handle, has two-deck stand, suspension spring, cord and hinged plug cord protector. Requires special wiring.

Heating unit is in two sections, arranged V-shape on the soleplate. The sections meet at the point of the iron, thus supplying most heat where most heat is needed because, in use, the point is pushed forward into the damp goods.

Top is pressed steel. Finish, polished nickel.

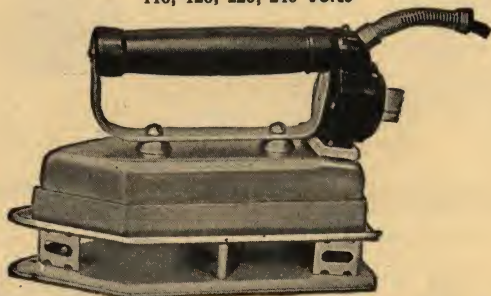
Operates on either alternating or direct current.



Cat. No.	Wt., Lbs. Each	Watts	Size Inches	Std. Pkg.	Price Each
11307	7 1/2	700	4 1/2 x 7	1	\$8.75
11308	8 1/2	750	4 1/2 x 7	1	9.25
11310	10	800	4 5/8 x 7 1/8	1	11.00
11312	12	850	5 1/8 x 7 5/8	1	13.75
11315	15	900	5 3/8 x 8	1	15.75

Hotpoint Tailor Irons

110, 120, 220, 240 Volts



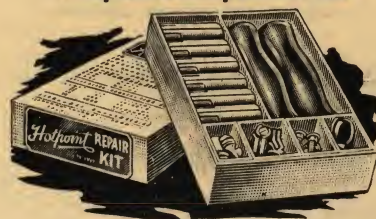
Made in the approved goose shape, otherwise same construction as the laundry iron. In the three-heat style, the different heats are obtained by permanently attaching three-heat rotary snap switch to handle. Has two-deck stand, suspension spring cord. Requires special wiring.

Heating unit is in two sections, arranged V-shape on the soleplate. Top is pressed steel. Finish, polished nickel. Operates on either alternating or direct current.

Cat. No.	Wt., Lbs. Each	Watts	Std. Pkg.	Price Each
438F24	15	850-425-212	1	\$20.00
439F24	20	900-450-225	1	22.00
431F24	25	1000-500-250	1	26.00

Extra charge of \$2.50 for odd voltages.

Hotpoint Repair Kits



The new Hotpoint Kit contains an assortment of 45 of the most called-for interchangeable supply parts for Hotpoint and Edison 5 and 6-pound irons.

List of contents includes: 2 No. K596 wood handles; 1 No. K556 thumb rest; 8 No. TE18 terminals; 12 No. CD42 contact springs; 12 No. CD366 plug case halves; 5 No. CD375 upper plug screws and 5 No. CD376 lower plug screws.

Price..... each \$3.75

Exemplar Heater Cord Sets



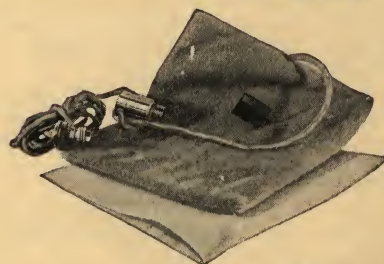
Set includes 7-foot Deltabeston Heater Cord, Plugall Universal Plug and G-E Socket Attachment Plug.

Packed in separate boxes, one set to a box.

Price..... each \$1.75

No. 136Q7 Hotpoint Comfort Heating Pads

110-220 Volts



This style is a three-heat pad size 12x15 inches, and is furnished complete with muslin cover.

It is quick, simple, sanitary, flexible, and uniformly heated. Equipped with thermostats.

Designed to operate from any electric light outlet.

Cat. No.	Watts	Size In.	Std. Pkg.	Wt., Lbs. Each	Price Each
136Q7	60	12x15	3	1 1/4	\$9.75

Hotpoint Comfort Heating Pads

110-220 Volts

This style is a single-heat pad, size 9x11 inches. It will heat in a few minutes and is provided with thermostatic control switches.

It is of convenient size, soft, flexible, and practical as well as comfortable. There is no muslin cover included in the price of this heating pad.

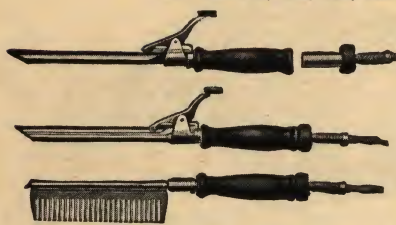


Cat. No.	Watts	Size In.	Std. Pkg.	Wt., Lbs. Each	Price Each
114Q7	40	9x11	3	3/4	\$5.75



Hotpoint Curling Irons

32, 100, 110, 120, 220, 240 Volts



The advantage of the Hotpoint Curling Iron is that the shield opens parallel to the rod, permitting it to be easily withdrawn from the hair. It also has a swivel removable plug with cord and attachment.

Cat. No.	Description	Diam. In.	Watts	Std. Pkg.	Price Each
112L4	Small Iron, Less Comb.....	$\frac{5}{16}$	21	3	\$6.50
112L5	" " with "	$\frac{5}{16}$	21	3	7.25
112L6	Large " Less "	$\frac{3}{8}$	24	3	6.50
112L7	" " with "	$\frac{3}{8}$	24	3	7.25

Hotpoint De Luxe Curling Irons



Furnished in a gray leatherette finished case which is lined with orange tufted silk. A convenient tray covered with silk holds the different pieces in place. A space below the tray holds the cord.

Plugs and thumb button are made of French gray Bakelite to harmonize with the feet of pearl gray silk cord. Furnished with nickel plated iron stand for use when iron is heating.

Furnished in 32, 110, 220 and 240 volts.

Cat. No.	Watts	Size Box Inches	Std. Pkg.	Price Each
113L6	24	$11\frac{3}{4} \times 3\frac{3}{8}$	3	\$7.50

Edison Curling Irons



Furnished in polished nickel, with an ebony wood handle, properly insulated.

Furnished with 6 feet of cord and plug.

Cat. No.	Capacity Watts	Std. Pkg.	Price Each
212L8	40	3	\$3.90

Hotpoint New Marcel Irons



The waver rod is $\frac{1}{2}$ inch in diameter and permits the making of large and lasting marcel waves. A heavy parallel opening shield, similar to other Hotpoint irons, holds the hair firmly to the heated tong and imparts an even wave along the entire length. Fitted with standard removable swivel plug which prevents snarling of cord.

Furnished in 32, 110, 220 and 240 volts.

Cat. No.	Watts	Dimensions Inches	Std. Pkg.	Price Each
113L10	30	$1\frac{1}{2} \times 11\frac{3}{4}$	3	\$5.50

Hotpoint Paneled Percolators

32, 100, 110, 120, 200, 220, 240 Volts



This percolator is made of copper and finished in highly polished nickel outside and silver lined.

Has an ebony finished wood handle.

Furnished in 32, 100, 110, 120, 200, 220 and 240 volts.

The 32-volt hollow-ware servants are not equipped with safety switch.

When ordering give catalogue number and name.

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20622	6	400	1	2 $\frac{7}{8}$	\$16.75

Hotpoint Valveless Nickeled Percolators

100, 110, 120, 200, 220, 240 Volts



A percolator that will appeal to the small family or for after-dinner service.

Body made of heavy sheet copper; finished in highly polished nickel. White metal spout. Ebonized wood handle; fiber tipped feet to protect polished surfaces.

Cover is hinged and fitted with ornamented glass globe.

Equipped with standard Hotpoint percolating apparatus and safety switch.

Furnished with cord and plugs.

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20620	5	400	1	2	\$12.00

Edison Aluminum Percolators

100, 110, 120, 220 and 240 Volts

Made entirely of highly buffed aluminum with a glass top. The spout is welded to the body. The close fitting hinged top prevents overflow from boiling. Handle is made of ebonized finished wood.

The heating unit, basket, strainer, contacts, cord and plug are interchangeable with the standard line of percolators.

Not furnished with a safety switch.



Cat. No.	Watts	Capacity Cups	Std. Pkg.	Price Each
214P21	400	6	1	\$7.50

Hotpoint Valveless Aluminum Percolator

100, 110, 120, 200, 220, 240 Volts



Percolation commences from cold water within 30 seconds. Made of aluminum.

Equipped with Hotpoint standard percolating apparatus and safety switch.

This switch prevents burnouts and enables the user to put the percolator in service again quickly and without expense or trouble, after the circuit has been opened through sudden increase in voltage or after percolator has been allowed to "boil dry." Has cord and plugs.

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20611	6	400	1	2 $\frac{1}{2}$	\$10.00



Hotpoint Valveless Nickeled Percolators

32, 100, 110, 120, 200, 220, 240 Volts

Suitable for the average family of six. Its straight sides provide easily accessible interior surface for keeping pot clean.

Made of copper; finished in highly polished nickel; white metal spout; ebonized wood handle, base fitted with fiber feet.

Cover is hinged, fitted with ornamented glass globe.

Equipped with standard Hotpoint percolating apparatus and safety switch. Furnished with cord and plugs.



Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20621	6	400	1	2 $\frac{3}{8}$	\$13.00

Hotpoint Valveless Colonial Design Percolators

100, 110, 120, 200, 220, 240 Volts

This popular design appeals to those socially inclined, to the large family, for use at soda fountains and light luncheon counters.

Made of copper; handles and legs of white metal; feet fiber tipped. Finished in polished nickel; inside coated with tin.

Equipped with Hotpoint percolating apparatus and safety switch.

Furnished with cord and plugs.

The safety switch is unfailing in its action and may be put into service again after an accidental overheating has caused the circuit to be opened. This can be easily and quickly done by the user.



Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20650	9	400	1	4 $\frac{1}{4}$	\$18.00

Hotpoint Valveless Grecian Urn Percolators

32, 100, 110, 120, 200, 220, 240 Volts

Very desirable for use in large families.

Constructed of heavy sheet copper; inside lined with silver; finished in polished nickel; mounted on three-footed pedestal; feet fiber tipped; handles of ebonized wood; faucet.

Equipped with standard Hotpoint percolating apparatus and safety switch.

Furnished with silk-covered cord and plugs. Standard pkg., 1.

Cat. No.	Cap. Cups	Watts	Wt., Lbs. Each	Price Each
114P18	9	400	4 $\frac{1}{4}$	\$23.00



Hotpoint Paneled Grecian Urn Percolators

32, 100, 110, 120, 200, 220, 240 Volts

This urn is desirable for use in large families.

Constructed of heavy sheet copper, the inside is lined with silver. Mounted on three-foot pedestal. The feet are fiber tipped. The handles on urn and faucet are of ebonized wood. Finished with highly polished nickel surface.

Equipped with standard Hotpoint percolating apparatus, safety switch on all but 32-volt, and silk covered cord and plug.

Standard package, one.



Cat. No.	Cap. Cups	Watts	Wt., Lbs. Each	Price Each
114P17	9	400	4 $\frac{1}{4}$	\$25.00

Hotpoint Paneled Coffee Urn Percolators

100, 110, 120, 220, 240 Volts

Graceful in design and suitable for use in family or for social occasions.

Made of copper, highly polished on the outside and silver lined.

Fitted with artistically shaped ebonized wood handles on urn and faucet.

Mounted on three-footed pedestal.

Equipped with safety switch, and furnished with cord and plug.

Standard package, one.

Cat. No.	Cap. Cups	Watts	Wt., Lbs. Each	Price Each
114P4	7	400	4	\$22.50



Hotpoint Revere Urn Percolators

100, 110, 120, 200, 220, 240 Volts

Graceful in design and is suitable for a large family or for social occasions.

The body is constructed of heavy copper, finished in nickel-plate and highly polished.

The handles are well insulated from the body with fiber insulators so that they are kept cool at all times.

The safety switch handle on outside of base permits resetting without removing the cap. Furnished with cord and plugs.



Cat. No.	Cap. Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
114P20	8	400	1	4 $\frac{1}{2}$	\$27.50

Hotpoint Dolly Madison Urn Percolators

400 Watts

An 8-cup percolator made of copper and finished in either polished nickel-plate or rich Butler finish, hand chased with decorations of the Adam period.

The silver-plated percolator is heavily electroplated on a nickel-silver base, insuring lifetime service.

Furnished complete with cord and plug.

Standard package, one.



Cat. No.	Finish	Wt., Lbs.	Price Each
115P20	Nickel . . .	4 $\frac{1}{2}$	\$31.50
116P20	Butler Silver . .	4 $\frac{3}{4}$	\$36.50

No. 20503 Hotpoint Chafing Dishes

100, 110, 120, 200, 220, 240 Volts



Mission style, copper, polished nickel finish outside, tin-coated inside. Food pan holds 4 $\frac{1}{2}$ pints. Furnished with cord and plugs.

Has two-heat control.

Cat. No.	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20503	450-225	1	5	\$22.50



Hotpoint Plain Tea-ball Tea Pots

100, 110, 120, 200, 220, 240 Volts

This tea pot is equipped with standard Hotpoint percolator unit and safety switch.

An aluminum tea ball with chain attached is furnished.

Made of copper, finished in polished nickel on the outside and silver-plated inside.

Base is equipped with three fiber feet which prevent the marring of highly polished surfaces.

Handles on lid and tea pot are of ebonized wood.



Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
114K5	7	400	1	2 $\frac{3}{4}$	\$16.00

Hotpoint Silver Tea-ball Tea Pots

100, 110, 120, 200, 220, 240 Volts



This tea pot is equipped with a standard Hotpoint percolator unit and safety switch.

An aluminum tea-ball with chain attached is furnished.

Made of copper, silver plated inside and outside, with chased design on each panel.

Base is equipped with three fiber feet which prevent the marring of highly polished surfaces.

Handles on lid and tea pot are of ebonized wood.

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
115K5	7	400	1	2 $\frac{3}{4}$	\$22.00

Hotpoint Tea Kettles

100, 110, 120, 200, 220, 240 Volts

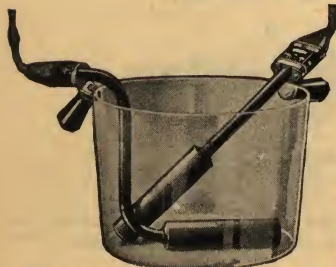
For heating water. Has self-contained heating unit of same type as used in percolators. It is located in center of bottom of kettle; when in use is entirely surrounded by water, thus none of the heat generated is wasted. Made of drawn copper. Spout white metal. Finished outside in polished nickel, inside in blocked tin. Furnished with cord, attachment plugs.



Cat. No.	Capacity Pints	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20801	2 $\frac{1}{2}$	400	1	2 $\frac{3}{8}$	\$13.50

Hotpoint Immersion Heaters

110, 220, 240 Volts



Quickly heats or boils any liquid into which it is plunged. Made in two sizes, large size, also in crook-neck form, the cylinder of which will lie submerged in liquid one inch deep. Made of copper and brass, polished nickel finish, complete with cord and plug.

Cat. No.	Style	Watts	Size In.	Std. Pkg.	Wt., Lbs. Each	Price Each
115W16	Small	300	3/4 x 7	3	3/4	\$5.25
115W17	Large	500	1 x 10	1	1	6.25
113W16	Crookneck	500	6 1/2 x 8 1/2	1	1 1/8	7.25

Hotpoint Paneled Percolator Sets

32, 100, 110, 120, 200, 220, 240 Volts



The paneled percolator set is designed for everyday use in small families and makes an ideal gift set.

The percolator is a 6-cup size with artistic paneled sides. Made throughout of copper and finished in highly polished nickel. Inside is silver lined. Ebony finished wood handle. Equipped, except the 32-volt, with safety switch.

The tray is a popular model, one-piece design. Made of copper and highly polished nickel in finish. Size, 12 1/2 x 20 inches.

The sugar and creamer are a paneled design similar to the percolator and finished in highly polished nickel outside. Silver lined.

Percolator Set Complete

Cat. No.	Std. Pkg.	Wt., Lbs. Each	Price Each
114S3	1	6 1/4	\$35.50

Percolator Only

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
20622	6	400	1	2 7/8	\$16.75

Tray, Sugar and Creamer to Match

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Each	Price Each
100Y34	Tray	1	2 3/8	\$9.25
100Y33	Sugar and Creamer	1	1	10.00

Hotpoint Paneled Urn Percolator Sets

100, 110, 120, 200, 220, 240 Volts



The urn is the popular paneled percolator of 7-cup capacity which makes it suitable for use in the home, and for social occasions.

The percolator is made entirely of copper and finished in polished nickel with silver plated inside lining. Has standard Hotpoint percolating apparatus and safety switch.

Artistically shaped handles and faucet handle are of ebonized wood. Feet are fiber tipped. Silk covered cord and plug.

The tray is finished in polished nickel and has black molded handles. Size, 12 1/2 x 20 inches.

Sugar and creamer are silver lined, outside nickel-plated and polished.

Percolator Urn Set Complete

Cat. No.	Std. Pkg.	Wt., Lbs. Each	Price Each
114S4	1	7 3/8	\$42.50

Percolator Only

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
114P4	7	400	1	4	\$22.50

Tray, Sugar and Creamer to Match

Cat. No.	Description	Std. Pkg.	Wt., Lbs. Each	Price Each
100Y38	Tray	1	2 3/4	\$10.50
100Y33	Sugar and Creamer	1	1	10.00



Hotpoint Plain Grecian Urn Percolator Sets

32, 100, 110, 120, 200, 220, 240 Volts



The urn is constructed throughout of copper, highly polished nickel finish outside and silver finish inside. Feet of the tripod on which it is mounted are fiber tipped. The handles of the urn and faucet are of ebonized wood. Equipped with standard Hotpoint percolating apparatus and safety switch, and is fitted with cord and plug. The 32-volt does not come equipped with safety switch.

The tray is a popular design, one-piece, nickel-plated on copper and highly polished. Size, 12½x20 inches.

The sugar and creamer which match the urn in finish and design are silver lined.

Percolator Urn Set Complete

Cat. No.	Std. Pkg.	Wt. Lbs. Each	Price Each
114S18	1	7⅝	\$41.25

Percolator Only

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt. Lbs. Each	Price Each
114P18	9	400	1	4¼	\$23.00

Tray, Sugar and Creamer to Match

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
100Y34	Tray.....	1	2⅜	\$9.25
100Y32	Sugar and Creamer.....	1	1	9.50

Hotpoint Paneled Grecian Urn Percolator Sets

32, 100, 110, 120, 200, 220, 240 Volts



The urn is constructed throughout of copper, highly polished nickel finish outside and silver finish inside. Feet of the tripod on which it is mounted are fiber tipped. The handles of the urn and faucet are of ebonized wood. Equipped with standard Hotpoint percolating apparatus and safety switch, and is fitted with cord and plug. The 32-volt does not come equipped with safety switch.

The tray is a popular design, polished nickel with black molded handles. Size, 12½x20 inches.

The sugar and creamer are similar in design and finish to the urn and are silver lined.

Percolator Urn Set Complete

Cat. No.	Std. Pkg.	Wt. Lbs. Each	Price Each
114S17	1	8	\$45.00

Percolator Only

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt. Lbs. Each	Price Each
114P17	9	400	1	4¼	\$25.00

Tray, Sugar and Creamer to Match

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
100Y38	Tray.....	1	2¾	\$10.50
100Y33	Sugar and Creamer....	1	1	10.00

Hotpoint Dolly Madison Percolator Urn Sets



The urn is a true classic vase outline with exquisite decorations inspired by one of the finest periods of historic design.

The urn is made of copper throughout in either of two finishes. Percolator unit is silver plated.

The tray, of copper finished in nickel of Butler Silver, is designed to match urn. Size, 12½x20 inches.

The sugar and creamer, similar in design, and offered in two finishes, are lined with silver plate.

Percolator Urn Set Complete

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
115S20	Nickel Finish.....	1	8¾	\$55.00
116S20	Butler Silver Finish.....	1	8⅝	65.00

Percolator Only

Cat. No.	Finish	Cap. Cups	Watts	Std. Pkg.	Wt. Lbs. Each	Price Each
115P20	Nickel.....	8	400	1	4½	\$31.50
116P20	Butler Silver.....	8	400	1	4¾	36.50

Tray, Sugar and Creamer to Match

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
105Y34	Tray, Nickel Finish.....	1	2¾	\$12.75
106Y34	" Butler Silver Finish.....	1	2¾	16.75
105Y32	Sugar and Creamer, Nickel.....	1	2⅛	12.25
106Y32	" " Butler Silver.....	1	2⅛	15.25

Hotpoint Revere Urn Sets

100, 110, 120, 200, 220, 240 Volts



A beautiful urn set for the dining room. Makes an ideal wedding gift.

The Revere design urn has a body made of copper, nickel plated and highly polished. The metal handles are well insulated from the body with fibre insulators to keep them cool. A safety switch handle on outside of base permits resetting without removing the cap.

The tray is a one-piece design known as the Revere tray. Made of copper, nickel plated and highly polished. Size, 12½x20 inches.

Sugar and creamer are similar in design and finish to the urn. Silver lined.

Percolator Urn Set Complete

Cat. No.	Std. Pkg.	Wt. Lbs. Each	Price Each
114S20	1	7⅞	\$45.75

Percolator Only

Cat. No.	Capacity Cups	Watts	Std. Pkg.	Wt. Lbs. Each	Price Each
114P20	8	400	1	4½	\$27.50

Tray, Sugar and Creamer to Match

Cat. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
100Y34	Tray.....	1	2¾	\$9.25
100Y32	Creamer and Sugar Set.....	1	1	9.50



Hotpoint Rogers 1847 Silver Coffee Set

32, 100, 110, 120, 200, 220, 240 Volts



These silver plated sets are 1847 Roger Bros. ware, furnished in bright polished, mirror finish, or in Butler finish, hand chased with decorations of the Adam period.

The percolating urn is equipped with standard Hotpoint percolating apparatus and safety switch. Silk-covered cord and attachment plug are furnished. No safety switch is provided with the 32-volt type.

Coffee Set Complete

Cat. No.	Description	Price Each
414S8	Plain Polished Finish.....	\$126.25
414S8	Butler Finish, Hand Chased.....	143.50

Percolator only

Cat. No.	Finish	Watts	Ht. In.	Std. Pkg.	Wt., Lbs. Each	Price Each
414P8	Plain Polished.....	400	17	1	5½	\$76.00
414P8	Butler, Chased.....	400	17	1	5½	85.00

Tray, Sugar and Creamer to Match

Cat. No.	Description	Ht. In.	Std. Pkg.	Wt., Lbs. Each	Price Each
400Y7	18-inch Tray, Plain Polished.....	...	1	3¾	\$23.75
400Y7	18 " " Butler, Chased.....	...	1	3¾	27.75
400Y5	Sugar with Cover, Plain Polished.....	6¾	1	1½	14.50
400Y5	" " " Butler, Chased.....	6¾	1	1½	16.75
400Y6	Creamer, Gold Lined, Plain Polished.....	6	1	9/16	12.00
400Y6	" " " Butler, Chased.....	6	1	9/16	14.00

Hotpoint Rogers 1847 Silver Tea Sets

32, 100, 110, 120, 200, 220, 240 Volts



These silver plated tea sets are 1847 Roger Bros. ware, furnished in bright polished, mirror finish, or in Butler finish, hand chased with decorations in the Adam period.

There are five pieces in the set. The hot water kettle has heating element of the same type as used in Hotpoint percolators and is equipped with safety switch in all voltages except the 32-volt type.

Tea Set Complete

Cat. No.	Description	Price Each
414S4	Plain Polished Finish.....	\$147.25
414S4	Butler Finish, Hand Chased.....	163.00

Hot Water Kettle, Tea Pot, Sugar and Creamer, Tray

Plain Polished Finish

Cat. No.	Description	Watts	Ht. In.	Std. Pkg.	Wt., Lbs. Each	Price Each
414K4	Hot Water Kettle....	400	12¾	1	4½	\$63.50
400K1	Tea Pot.....	...	7½	1	1½	20.75
400Y8	20-inch Tray.....	...	...	1	5¾	36.50
400Y5	Sugar, with Cover....	...	6¾	1	1½	14.50
400Y6	Creamer, Gold Lined..	...	6	1	9/16	12.00

Butler Finish, Hand Chased

Cat. No.	Description	Watts	Ht. In.	Std. Pkg.	Wt., Lbs. Each	Price Each
414K4	Hot Water Kettle....	400	12¾	1	4½	\$68.00
400K1	Tea Pot.....	...	7½	1	1½	23.00
400Y8	20-inch Tray.....	...	...	1	5¾	41.25
400Y5	Sugar, with Cover....	...	6¾	1	1½	16.75
400Y6	Creamer, Gold Lined..	...	6	1	9/16	14.00

Hotpoint Round Trays



Made of copper and finished in highly polished nickel with neatly shaped nickel handles.

Cat. No.	Diameter In.	Std. Pkg.	Net Wt., Lbs.	Price Each
100Y39	13¾	1	1¾	\$4.75

Hotpoint Rectangular Trays

Finished in polished nickel and fitted with black handles.



Cat. No.	Size In.	Std. Pkg.	Net Wt., Lbs.	Price Each
100Y38	12½x20	1	2¾	\$10.50

Hotpoint Plain Sugars and Creamers

Small Size



This sugar and creamer set is designed to match any of the plain percolators.

Made throughout of copper, heavily nickel-plated and highly polished. Sugar and creamer are silver lined.

Cat. No.	Capacity Ounces	Std. Pkg.	Wt., Lbs. per Set	Price per Set
100Y32	6.8	1	1	\$9.50

Hotpoint Paneled Sugars and Creamers

Small Size



This set is designed to match any of the paneled percolators and the plain tea pot.

Made throughout of copper, heavily nickel-plated and highly polished. Sugar and creamer are silver lined.

Cat. No.	Capacity Ounces	Std. Pkg.	Wt., Lbs. per Set	Price per Set
100Y33	6.8	1	1	\$10.00

Hotpoint Large Sugars and Creamers

Paneled or Plain



These new sugars and creamers have a capacity of 9.6 ounces while the smaller sugars and creamers have only a 6.8-ounce capacity.



The large sugar bowl is furnished with an attractive top.

Cat. No.	Style	Std. Pkg.	Net Wt., Lbs.	Price per Set
100Y54	Plain	1	1¾	\$10.75
100Y55	Paneled	1	1¾	11.25



Hotpoint Portable Ovens

100, 110, 120 Volts



Does the baking, roasting and boiling for a large family. Will roast a large turkey, bake six loaves of bread, six pies, etc. Door opening, 17x16 inches. Oven dimensions, 18 x 18 x 12 inches.

Made of steel. Outside, semi-gloss black enamel, nickel-trimmings; inside in japanned steel; walls heavily insulated with high-grade mineral wool.

Drop down spring-balanced door with white enamel panel fitted with oven heat indicator; may be furnished with two heavy windows and no indicator.

Has one grate, one broiling pan with grate and one grate with baffle plate.

Requires special wiring.

Cat. No.	Watts Each Element	Floor Space Dimensions, Inches	Shipping Wt., Lbs.	Price Each
111N18	1500-750-375	27½x28¾	200	\$86.00

Hotpoint Portable Ovens

110, 120, 220, 240 Volts



This oven is large enough to bake two loaves of bread simultaneously, or it will handle a small roast with ease.

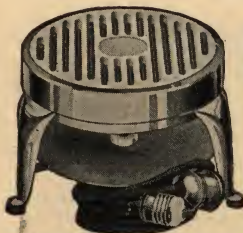
It is furnished with two adjustable racks. Inside dimensions are 9x11x11 inches. Outside, 15½ inches high, 13 inches deep by 17 inches wide, including handles.

Furnished complete with 7 feet of cord and plug. Oven is finished in dull black enamel, nicely trimmed with nickel.

Door has oven thermometer.

Cat. No.	Watts	Std. Pkg.	Net Wt., Lbs.	Price Each
PO9	600-300-150	1	35	\$25.00

Hotpoint Table Stoves



The open coil type with heating unit securely held in steel tripod frame. The glowing coils of this table stove are mounted in a porcelain block, beneath which is an insulating brick.

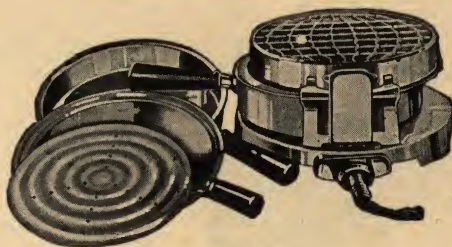
Owing to the heat retaining qualities of the porcelain, much of the cooking may be done on retained heat, a valuable feature. Heat is evenly spread over surface of unit.

Stove is 5 inches high, 6½ inches wide over unit. Equipped with 7 feet of cord, plug and push-button switch. Furnished in single and three-heat styles, and 100, 110 and 120 volts.

Cat. No.	Watts	Heats	Std. Pkg.	Net Wt., Lbs.	Price Each
136D1	660-330-165	3	1	5	\$11.50
116D1	660	1	1	4 ⅞	10.00

Hotpoint Round Radiant Grills

32, 100, 110, 120, 200, 220, 240 Volts

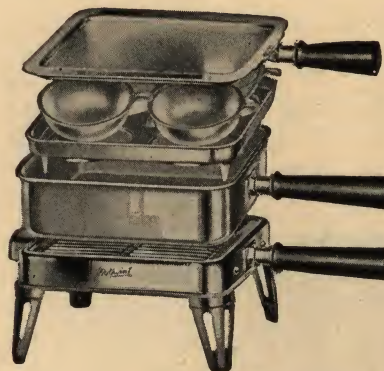


An electric grill and stove of the open-coil reflector type. Boils, broils, fries and toasts, any two operations at same time, one above and the other below the coils, at a current cost of one. Has simple three-heat contact arrangement.

Made of pressed steel, finished in highly polished nickel. Has deep under-dish with broiling grid; shallow dish; cover to fit either dish; serves as reflector or cake griddle (ordinary kitchen utensils, granite and enamelware included, may be used with equally good success); cord, lamp-socket attachment plug and detachable plug.

Cat. No.	Watts	Size In.	Std. Pkg.	Wt., Lbs. Each	Price Each
136G1	600-300-150	7¼x4½	3	4¾	\$12.50

Hotpoint Table Stoves with Dishes



Consists of No. 116D29 table stove together with a deep pan, reflector cover, four egg cups and an egg rack all of which are made of aluminum.

Furnished in 100 and 120 volts.

Wattage, 660.

Net weight, 3¾ pounds.

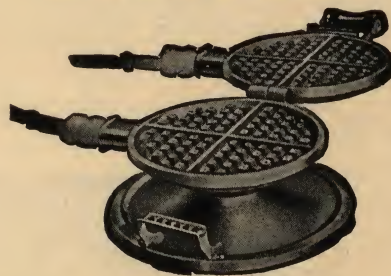
Cat. No.	Std. Pkg.	Price Each
116D39	3	\$7.95

Price, No. G9150

Dishes only. . \$3.00

Hotpoint Waffle Irons

100, 110, 120, 200, 220, 240 Volts



This waffle iron has nickel-plated pedestal base with pierced cool handles.

Upper and lower plates are of aluminum with cast-in helical core, sheath wire units.

Specially designed hinge permits separating plates for easy cleaning; also permits top plate to rise as waffle cooks, has guard to protect user from steam when opening.

Each plate equipped with separable plug.

Produces round waffles 6¼ inches in diameter in four sections.

Cat. No.	Watts	Size In.	Std. Pkg.	Wt., Lbs. Each	Price Each
116Y23	600	8½x7	1	7	\$15.75



Hotpoint Waffle Irons



The base is made of pressed steel, paneled in design with a net work of ornamental piercings around the collar.

Wide and shaped so as to conveniently catch any overflowing batter.

Hotpoint sheath wire units are used and produce evenly browned 7½-inch round waffles.

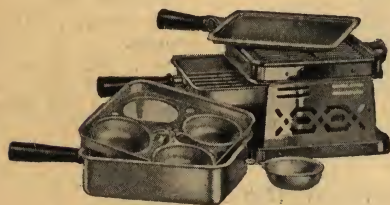
Two cool ebonized wood handles on the side of the lower plate and a convenient lifting handle on the side

of the top plate make handling of the iron extremely easy and safe from burns. A specially slotted hinge permits the top plate to rise parallel to the bottom as waffle bakes. This plate is permanently attached. A single plug connection is provided. Furnished with 7-foot heating appliance cord and a two-piece G. E. attachment plug.

Furnished in 110 and 220 volts only.

Cat. No.	Watts	Diam. Base In.	Ht. In.	Std. Pkg.	Wt. Lbs.	Price Each
116Y53	660	9½	5¼	1	7	\$15.00

Hotpoint Duplex Grills



A square single-heat grill that boils, stews, fries, broils, toasts or poaches; two operations at one time.

Base and supports are strongly made of pressed steel and finished in

polished nickel. The set consists of a shallow pan, deep pan, reflector cover, broiler grid, four egg cups and cup rack.

Furnished with cord and plug.

Cat. No.	Watts	Dimensions Inches	Std. Pkg.	Net Wt. Lbs.	Price Each
116G9	600	7¾x7¾x5	3	4	\$9.85

Hotpoint Table Stoves

100, 110, 120, 200, 220, 240 Volts



This stove has 36 square inches of working surface and will toast, boil or fry anything. Finished in highly polished nickel, fitted with a cool removable ebony finished wooden handle.

Complete with a separate cord and plug.

Feet fitted with fibre tips to avoid scratching or marring of polished surfaces.

Cat. No.	Diam. Inches	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
116D29	6	660	3	2¼	\$4.95

Hotpoint Toast-over Toasters

Fitted with un-breakable fibre feet. Ebonized wood turn-knobs will not heat or loosen.

Furnished with 7-foot cord and two-piece G.E. attachment plug.

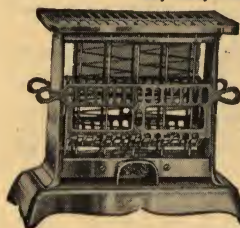
Size, 6x8x7¼ inches. Wattage, 550. Furnished in 100, 110, 200, 220 and 240 volts.

Cat. No.	Std. Pkg.	Net Wt. Lbs.	Price Each
115T17	3	2½	\$8.00



Hotpoint Colonial Toasters

32, 100, 110, 120, 200, 220, 240 Volts



Sturdy construction and excellent design make this toaster very satisfactory. Toasts two large slices of bread at one time and spring controlled bread holders hold bread in position while toasting.

Made of steel throughout, nickel-plated and highly polished and fitted with fiber feet to protect table surface.

Flat top may be used to keep

toast or coffee hot.

Weighted base lessens possibility of upsetting.

Complete with cord and plug.

Cat. No.	Watts	Size Inches	Std. Pkg.	Wt., Lbs. Each	Price Each
115T1	550	4x9x8	3	2¾	\$8.00

Hotpoint Toast-over Toasters

100, 110, 120, 200, 220, 240 Volts

Toasts two large slices of bread at the same time without handling. When one side of bread is toasted the untoasted side is put in position for toasting by opening and closing the bread holder. Has fiber feet to eliminate marring of polished surfaces.

Made of steel and finished with a highly polished nickel finish. Furnished with cord and plugs.



Cat. No.	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
115T9	500	3	2¼	\$8.00

Hotpoint Soldering Irons

32, 110, 240 Volts



Chisel tip is made of extra heavy copper properly designed to conduct heat to point being soldered. Constructed and designed specially for radio home work. The well known Hotpoint sheath wire unit issued in this iron.

The cool wood handle is built to fit the average hand. It is ebonized finished. The shank which supports the chisel tip and sheath wire unit is made of steel for strength and durability. High quality cord made according to Hotpoint specifications is furnished. This cord is securely anchored in handle to avoid strain on the terminals. A two-piece plug of exceptionally durable construction is furnished.

Cat. No.	Std. Pkg.	Net Wt., Oz.	Wattage	Price Each
117L9	3	10	65	\$3.25



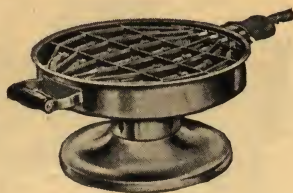
Hotpoint Radiant Stoves

32, 100, 110, 120, 200, 220, 240 Volts

Designed for use with ordinary cooking utensils. Made of nickel-plated steel throughout in chafing dish design.

Has a highly polished steel reflector under the glowing-coil element.

Top is removable, for cleaning.



Furnished with cord, attachment and contact plugs.

Cat. No.	Watts	Height Inches	Std. Pkg.	Wt., Lbs. Each	Price Each
20302	550	4	3	2 1/8	\$7.25

Hotpoint Disc Stoves

100, 110, 120, 200, 220, 240 Volts



Small, light, single-heat stove designed for traveler, roomer, etc. Pressed steel, nickel-plated. Wattage, 400.

Cat. No.	Diam. In.	Wt. Lbs. Each	Price Each
114D14	4 1/2	2 3/8	\$6.50

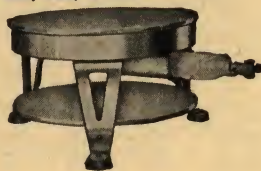
Hotpoint Disc Stoves

32, 100, 110, 120, 200, 220, 240, Volts

Single-heat stove, cast iron top; base, nickel-plated. Fiber tipped feet.

Cord and plug.

Cat. No.	Diam. In.	Watts	Std. Pkg.	Wt. Lbs. Each	Price Each
40101	6	600	1	4 7/8	\$7.50



Hotpoint Sheath Wire Disc Stoves

100, 110, 120 Volts



A cast-in type for all cooking purposes needing a large disc. Equipped with a heavy 20-ampere three-heat snap-switch giving a three-heat control. Requires special wiring.

The rim around the disc is nickel-plated and polished; base and legs are plain nickel with fiber feet.

Cat. No.	Watts	DIAMETER, INCHES Disc Over All	Std. Pkg.	Wt., Lbs. Each	Price Each
131D22	1500-750-375	8 10 1/2	1	9 3/4	\$19.00

G-E Air Heating Units

110 or 220 Volts



The two steel strips for the Air Heating Unit have a half round central groove running the length of the strips. The latter are welded together clamping the sheath wire firmly in the tubular space formed by the grooves. The heat generated in the sheath wire is conducted to and radiated from the entire surface of the unit thus formed.

The terminals project about 2 inches at either end.

Cat. No.	Watts	No. of Heats	Length Over All In.	HEATING SURFACE INCHES Length Width	Approx. Shipping Wt., Lbs.	Price Each
244704	500	1	23 3/4	20 2	2	\$3.25

Always specify voltage when ordering.

Hotpoint Electric Hotplates

Single Unit Type

This is a substantial Hotplate with top and legs finished in highly polished nickel. Has a cooking surface 12x12 inches with 6-inch 1000-500-250 watt or 8 1/2-inch 1800-900-450 watt unit as ordered.



Twin Unit Type

No.	Maximum Watts	Unit Equipment	Ship. Wt., Lbs.
131D24	1000	Open Coil	15
132D24	1800	" "	15
135D24	1000	Sheath Wire	20
136D24	1800	" "	20

Twin Unit Type

The two heating units are of same size and wattage. Either 1000 watts, 6 1/2-inch units, or 1800 watts, 8 3/4-inch units are furnished. Hotplate is finished in highly polished nickel.

No.	Maximum Watts	Unit Equipment	Ship. Wt., Lbs.
131D25	1000	Open Coil	35
132D25	1800	" "	35
135D25	1000	Sheath Wire	45
136D25	1800	" "	45

Triple Unit Type

Cooking surface is 14 1/2 x 38 inches. Each unit is controlled by a separate three-heat switch. Wiring is arranged for connection to either a 110-220-volt 3-wire circuit or 110-volt circuit. Hotplates with sheath wire are furnished for 220 or 240-volt 2-wire circuits.

No.	Unit Equipment	Ship. Wt., Lbs.	No.	Unit Equipment	Ship. Wt., Lbs.
131D26	Open Coil	65	135D26	Sheath Wire	80

Wattage for triple unit type: 2 units each, 1000-500-250. 1 unit each, 1800-900-450.

Open coils furnished in 100, 110, 120 volts only.

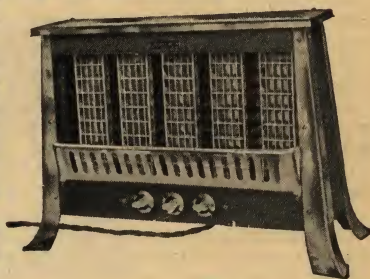
Prices upon application.

Hotpoint Radiant Heaters

100, 110, 120, 200, 220, 240 Volts

An electric radiant heater of the glowing-coil open fire-place type. Substantially built of pressed steel, planished and trimmed with highly polished nickel. Heat controlled by indicating snap switches.

Heating units are encased in polished nickel-plated steel reflector.



Cat. No.	No. of Heats	Watts	Dimens. Inches	Std. Pkg.	Wt., Lbs. Each	Price Each
132A12	3	2000-1000	10x22 1/2 x 18 1/2	1	19 1/2	\$32.50
133A12	3	3000-2000-1000	10x30 1/2 x 18 1/2	1	25 1/2	44.00

Hotpoint Air Heaters

110, 120, 220, 240 Volts

A substantial electric air heater of black enameled steel, mounted on cast iron base. Base is nicely nickel-plated. Heater is provided with cool handles for carrying. Single-heat heaters are not equipped with switches.

To estimate the size of heater needed, allow 1 to 2 1/2 watts per cubic foot in moderate climates.



Cat. No.	No. of Heats	Watts	Dimens. Inches	Std. Pkg.	Wt., Lbs. Each	Price Each
411A8	1	1000	15x9x17 1/2	1	18	\$26.00
431A8	3	1000	15x9x17 1/2	1	18	29.00
432A8	3	2000	15x9x23 1/2	1	22	30.50
433A8	3	3000	23x9x19 1/2	1	35	33.00



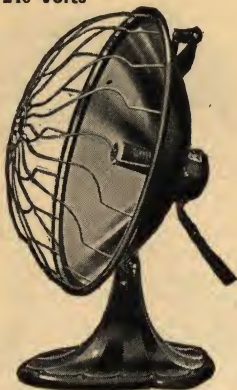
Hotpoint Hedlite Heaters

100, 110, 120, 200, 220, 240 Volts

This portable heater is convenient and has an efficiently designed cast iron base, so that if accidentally tipped it turns face up.

A hole through one end of the base makes it practical to hang the heater on the wall. Has a large 14-inch reflector with high radiation efficiency. Guard easily removed by squeezing two wires at the top. The removable Edison screw base unit enables the user to convert the heater into a portable lamp. Equipped with cord and attachment. Height, 18 inches.

Cat. No.	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
116A15	630	3	9 1/4	\$10.50



Type A29 Hotpoint Hedlite Heaters



Heating unit and reflector scientifically proportioned so the maximum heat rays are directed on the person being warmed.

The reflector bowl can be adjusted to reflect heat rays at any angle. A cool handle makes the Hotpoint Heater truly portable.

Substantial, heavy cast base gives stability. Has a standard Edison screw base, making it as easy to remove as a lamp.

Height, 19 3/4 inches; weight 9 1/4 pounds; size of copper bowl and border, 14 3/4 inches; wattage, 630; standard package, 1.

The guard is easily lifted off, so that the reflector can be kept clean and efficient for reflection.

Price, No. 146A29, Florentine Relief Finish.....	each	\$14.90
" " 156A29, Old Ivory Finish.....	"	14.90
" " 166A29, Antique Bronze Finish.....	"	13.90

Type A30 Hotpoint Hedlite Heaters

Made in mahogany finish. Height, 17 1/2 inches; weight, 7 1/2 pounds. Size of bowl, 12 inches; wattage, 630; length of cord, 6 feet, 10 inches; standard package, 3.

Furnished in 100, 110, 120, 200, 220 and 240 volts.

Hole in end of base permits easily hanging on wall and especially adaptable for baby's bath, floodlight and other purposes.

Reflector bowl can be adjusted to reflect heat rays at any angle.

A cool handle makes it truly portable.

The unit has a standard Edison screw base, making it as easy to remove as a lamp. A lamp may be substituted for the unit for displays, for projecting light in the home, garage, for lawn parties, etc.

Guard is easily lifted off, so that reflector can be kept clean and efficient for reflection.

Price, No. 116A30.....each \$7.95



Hotpoint Pedestal Type Hedlite Heaters

100, 110, 120, 200, 220, 240 Volts

This pedestal type heater is designed to fit in with the modern living room furnishings. Desirable for the convalescent as the heat rays are thrown directly on the body.

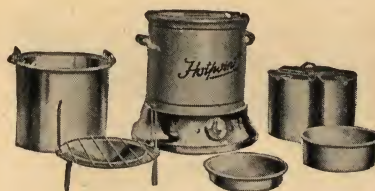
Has a large 14-inch reflector with high radiation efficiency. Guard easily removed by squeezing two wires at the top. So constructed that the reflector can be adjusted through a very wide radius.

Equipped with cord and attachment plug. Height, 31 1/2 inches.

Cat. No.	Watts	Std. Pkg.	Wt., Lbs. Each	Price Each
116A16	630	3	7 1/2	\$15.00



Hotpoint Electric Cookers



A portable steaming or boiling compartment controlled by a three-heat switch adaptable to do every day cooking in the average household.

The cooker is designed for sturdy every day cooking operations.

The cooker can be attached to any convenient electric outlet. With the three-heat arrangement most cooking can be done on medium heat, which is 110 watts or the equivalent of the average size electric lamp.

The cooker consists of: A six-inch stove supported on a nickel plated steel base. It is controlled by a three-heat snap switch with indicating handle. The heating unit is a six-inch speed unit consuming 660 watts on high for preheating, 110 watts on medium for steaming or boiling and 90 watts on low for simmering. The heavily insulated container has a nickel plated rust-proof interior and is finished on the outside with a gray lacquer stripped in red. Well insulated against loss of heat. Two handles on the side of the container make it portable.

Has five-quart aluminum kettle, Clover Leaf set of three-pint aluminum utensils, aluminum cake or pudding pan, and aluminum pie pan.

The baking rack fits over the stove and distributes the heat for uniform baking and roasting.

Furnished in 110, 120 and 220 volts.

Cat. No.	Watts	Size, INCHES Diam. Base	Ht.	Std. Pkg.	Net Wt. Lbs.	Wt., Lbs. Packed	Price Each
136C9	660	12	13	1	17 1/2	22 1/2	\$27.75

Hotpoint Electric Cookers

This cooker consists only of six-inch stove, container and five-quart aluminum kettle.

Dishes are not included.

Size, 12 inches in diameter, 13 inches in height. Wattage, 660. Std. pkg., 1.

Made in 100, 110 and 220 volts.



Cat. No.	Wt., Lbs. Packed	Net Wt., Lbs.	Price, Each
136C7	21	161	\$22.75

Hotpoint Hedlight Heaters



A new low priced heater. It is 15 1/4 inches in height and weighs 6 1/2 pounds. The reflector bowl is 11 inches in diameter. The base is panel cast iron. A hole is provided in the base so the heater can be hung upon the wall.

The asbestos and rubber covered 8-foot cord has a two-piece attachment plug.

Wattage, 630

Cat. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
116A31	3	6 1/2	\$6.50



Model RA67 Hotpoint Ranges Automatic Temperature Control

EQUIPMENT.—Model RA67 has four surface heating units, combination baking and broiling oven, warming compartment, automatic temperature control, shelf, damper, thermometer, white enamel spasher and cooking top.

UNIT EQUIPMENT.—Three 6½-inch interchangeable speed units, each 1000-500-250 watts; one 8¾-inch interchangeable surface unit, 1800-900-450 watts; two (upper and lower)

interchangeable oven units, each 1500-750-375 watts.

Ranges are furnished for either 60 or 25 cycles. Automatic ranges cannot be furnished for direct current circuits.

FINISH.—Black japan with nickel trimmings.

DIMENSIONS.—Floor space, 28¼x52½ inches. Cooking surface, 33 inches from floor. Flat area of cooking top, 24½x26½ inches. Oven, 18x18x14 inches. Warming compartment, 22½x22½x12 inches. Height over all, 57¼ inches.

Shipping weight, 385 pounds.

Description	CATALOGUE NUMBERS	
	Open Coil Units	Sheath Wire Units
Right Hand Oven, Std. Surface Units.	111RA67	115RA67
Left " " " " " "	131RA67	135RA67
Right " " " with C6 Cooker...	112RA67	116RA67
Left " " " " C6 " " "	132RA67	136RA67

Prices upon application.



Models RA63 and RS63 Hotpoint Ranges

Model RA63 has automatic heat control.

Model RS63 has automatic heat control and electric timer for turning oven on and off.

Either model can be installed under a window, if necessary, its top edge rising but a few inches above the sill.

EQUIPMENT.—Three surface heating units, combination baking and broiling oven, damper, thermometer and white porcelain enamel splashers and cooking top.

FINISH.—Black japan with polished nickel trimmings.

UNIT EQUIPMENT.—Two 6½-inch interchangeable speed units, each 1000-500-250 watts; one 8¾-inch interchangeable surface unit, 1800-900-450 watts; two interchangeable oven units, (upper and lower), each 1500-750-375 watts.

DIMENSIONS.—Floor space, 28¼x52½ inches. Cooking surface, 33 inches from floor. Flat area of cooking top, 24½x26½ inches. Oven, 18x18x14 inches. Height over all, 41½ inches. Shipping weight, 320 pounds.

Model RA63—Oven Temperature Control

Description of Range	CATALOGUE NUMBERS	
	Open Coil Units	Sheath Wire Units
Right Hand Oven, Std. Surface Units.	111RA63	115RA63
" " " with C6 Cooker...	112RA63	116RA63

Model RS63—Electric Timer and Heat Control

Right Hand Oven, Std. Surface Units.	111RS63	115RS63
" " " with C6 Cooker...	112RS63	116RS63

Furnished only with right hand oven as position of oven does not interfere with light on cooking surface.

Prices upon application.



Model R67 Hotpoint Electric Ranges



An unusually popular model suited to homes which need not economize on floor space. Ideal for either medium or large family. It is also suitable for club or church kitchen.

FEATURES.—Four surface heating units, combination baking and broiling oven, warming compartment, shelf, damper, thermometer, white porcelain enamel splasher and cooking top.

DIMENSIONS.—Floor space, 28¼x52½ inches. Cooking surface, 33 inches from floor. Flat area of cooking top, 24½x26½ inches. Oven, 18x18x14 inches. Warming compartment, 22½x22½x12 inches. Height over all, 57¼ inches.

UNIT EQUIPMENT.—Three 6½-inch interchangeable speed units each 1000-500-250 watts; one 8¾-inch interchangeable surface unit 1800-900-450 watts; two interchangeable oven units (upper and lower) each 1500-750-375 watts.

FINISH.—Black japan with polished nickel trimmings.

SHIPPING WEIGHT.—111R67 and 131R67, 375 pounds; 115R67 and 135R67, 385 pounds.

Description	CATALOGUE NOS.	
	Open Coil Surface Unit	Sheath Wire Surface Unit
Right Hand Oven, Std. Surface Units.	111R67	115R67
Left " " " " " "	131R67	135R67
Right " " " with C6 Cooker...	112R67	116R67
Left " " " " C6 " " "	132R67	136R67

Prices upon application.

Model R63 Hotpoint Electric Ranges



A compact model which can be installed, if necessary, below a window. Furnished only with right oven as position of oven does not interfere with light.

EQUIPMENT.—Three surface heating units, combination baking and broiling oven, damper, thermometer, white porcelain enamel splasher and cooking top.

UNIT EQUIPMENT.—Two 6½-inch interchangeable speed units, each 1000-500-250 watts; one 8¾-inch interchangeable surface unit, 1800-900-450 watts; two interchangeable oven units (upper and lower), each 1500-750-375 watts.

GENERAL FINISH.—Black japan with polished nickel trimmings.

DIMENSIONS.—Floor space, 28¼x52½ inches. Cooking surface, 33 inches from floor. Flat area of cooking top, 24½x26½ inches. Oven, 18x18x14 inches. Height over all, 41½ in.

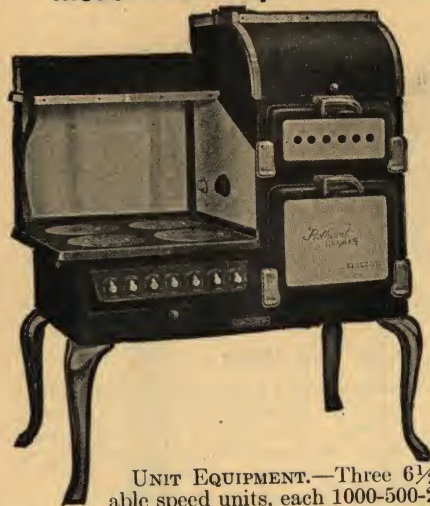
SHIPPING WEIGHT.—111R63, 320 pounds; 115R63, 325 pounds; 112R63 320 pounds; 116R63, 325 pounds.

Description of Range	CATALOGUE NUMBERS	
	Open Coil Units	Sheath Wire Units
Right Hand Oven, Std. Surface Units.	111R63	115R63
" " " with C6 Cooker...	112R63	116R63

Prices upon application.



Model R75 Hotpoint Electric Ranges



EQUIPMENT.—Model R75 has four surface heating units, combination baking and broiling ovens, broiler, warming compartment, shelf, damper, thermometer, white porcelain enamel splashers, and cooking top.

FINISH.—Black japan with polished nickel trimmings.

UNIT EQUIPMENT.—Three 6½-inch interchangeable speed units, each 1000-500-250 watts; one 8¾-inch interchangeable surface unit, 1800-900-450 watts; two interchangeable oven units (upper and lower), each 1500-750-375 watts; one broiler unit, 1500-750-375 watts.

DIMENSIONS.—Floor space, 28¼x52½ inches. Cooking surface, 33 inches from floor. Flat area cooking top, 24½x26 inches. Oven, 18x18x14 inches. Broiler, 18x18x8 inches. Height over all, 64 inches.

Warming compartment, 22½x22½x12 inches.
Shipping weight, 445 pounds.

Description of Range	CATALOGUE NUMBERS	
	Open Coil Units	Sheath Wire Units
Right Hand Oven, Std. Surface Units.	111R75	115R75
Left " " " " " "	131R75	135R75
Right " Oven with C6 Cooker...	112R75	116R75
Left " " " " C6 " "	132R75	136R75

Prices upon application.

Model R79 Hotpoint Electric Ranges

FEATURES.—Two large combination baking and broiling ovens, warming compartment, shelf and canopy, two thermometers, white porcelain enamel splashers and cooking top.

DIMENSIONS.—Floor space, 28½x62¾ inches. Flat area of cooking top, 24½x37 inches. Each oven, 18x18x14 in. Height over all, 70 inches.

Four 6½-inch interchangeable speed units each 1000-500-250 watts; two 8¾-inch interchangeable surface units each 1800-900-450 watts; in each oven two interchangeable oven units (upper and lower) each 1500-750-375 watts.

FINISH.—Black japan with polished nickel trimmings.

Description	CATALOGUE NOS	
	Open Coil Surface Unit	Sheath Wire Surface Unit
Right Hand Oven, Std. Surface Units...	111R79	115R79
Left " " " " " "	131R79	135R79
Right Hand Oven with C6 Cooker	112R79	116R79
Left " " " " C6 " "	132R79	136R79

Prices upon application.

Model R87 Hotpoint Electric Ranges

A popular model, compact and suitable for the kitchen of a medium or large family.

FEATURES.—Four surface heating units, oven shelf with white porcelain enamel splashers, damper and thermometer.

The thermometer is of a new and improved type. Its construction makes it possible to place the thermostat in the side of the oven which brings the dial on the side. This affords more accurate record of the oven temperature.

DIMENSIONS.—Floor space, 28¼x28½ inches. Cooking surface, 33 inches from floor. Flat area of cooking top, 24½x27½ inches. Oven, 18x18x14 inches. Height over all, 57½ inches.

UNIT EQUIPMENT.—Three 6½-inch interchangeable speed units, each 1000-500-250 watts; one 8¾-inch interchangeable surface unit, 1800-900-450 watts; two interchangeable oven units (upper and lower) each 1500-750-375 watts.

FINISH.—Plain black japan only.

SHIPPING WEIGHT.—151R87, 285 pounds; 155R87, 295 pounds; 152R87, 285 pounds; 156R87, 295 pounds.



Description of Range	CATALOGUE NUMBERS	
	Open Coil Surface Unit	Sheath Wire Surface Unit
Low Oven with Shelf, Std. Surface Units	151R87	155R87
" " " " with C6 Cooker..	152R87	156R87

Prices upon application.

Model R101 Hotpoint Apartment Ranges



Designed particularly for small kitchens where economy of space is essential. There are no bolts on the cooking top and no pan underneath to catch dust. Easily cleaned with a soft cloth.

FEATURES.—Three interchangeable 6½-inch speed units, good sized oven, thermometer, white porcelain enamel splashers, 3-heat switches.

DIMENSIONS.—Floor space, 44x25 inches. Cooking surface, 33 inches from floor. Flat area of cooking top, 23x22 inches; oven, 16x12x18 inches. Height over all, 41½ inches.

UNIT EQUIPMENT.—Three interchangeable surface speed units each 1000-500-250 watts. Two oven units (upper and lower) each 1200-600-300 watts.

FINISH.—Plain black japan only.

SHIPPING WEIGHT.—121R101, 200 pounds; 125R101, 225 pounds.

Description	CATALOGUE NUMBERS	
	Open Coil Units	Sheath Wire Units
Right Hand Oven, Std. Surface Units	121R101	125R101
" " " " with C6 Cooker....	122R101	126R101

Prices upon application.



Model R105 Hotpoint Apartment Ranges



Especially built for apartment house kitchenette, its width and depth having been reduced to a minimum so that it can be placed in small corners or wall openings built for it. This compact little range is adaptable for small families of two or three.

FEATURES.—Two interchangeable surface speed units, oven, shelf with white porcelain enamel splasher, thermometer, 3-heat switches.

DIMENSIONS.—Floor space, 24x21 $\frac{1}{4}$ inches. Cooking surface, 33 inches from the floor. Flat area of cooking top, 25x17 $\frac{1}{2}$ inches. Oven, 16x12x15 inches. Height to top of shelf, 49 $\frac{1}{2}$ inches.

UNIT EQUIPMENT.—Two surface speed units each 1000-500-250 watts. Two oven units (upper and lower) each 1100-550 275 watts.

FINISH.—Black japan only.

SHIPPING WEIGHT.—151R105 and 161R105, 155 pounds, 155R105 and 165R105, 160 pounds.

Description	CATALOGUE NUMBERS	
	Open Coil Surface Unit	Sheath Wire Surface Unit
With High Shelf.....	151R105	155R105
Without High Shelf.....	161R105	165R105

Prices upon application.

Model R109 Hotpoint Apartment Ranges

Occupying small floor space and standing slightly over four feet in height, this range is adaptable for use in the average home but where space is limited.

FEATURES.—Three interchangeable 6 $\frac{1}{2}$ inch speed units, oven thermometer, shelf, white porcelain enamel splasher, 3-heat switches.

DIMENSIONS.—Floor space, 37 $\frac{1}{2}$ x21 $\frac{1}{4}$ inches, cooking surface, 33 inches from the floor. Flat area of cooking top, 36 $\frac{1}{2}$ x17 $\frac{1}{2}$ inches. Oven, 16x12x15 inches. Height to top of shelf, 49 $\frac{1}{2}$ inches.

UNIT EQUIPMENT.—Three interchangeable surface speed units each 1000-500-250 watts. Two oven units (upper and lower) each 1110-550-275 watts.

FINISH.—Plain black japan only.

SHIPPING WEIGHT.—151R109 and 161R109, 190 pounds; 155R109 and 165R109, 195 pounds.

Description	CATALOGUE NUMBERS	
	Open Coil Surface Units	Sheath Wire Surface Units
With High Shelf.....	151R109	155R109
Without High Shelf.....	161R109	165R109

Prices upon application.



Heating Units for Hotpoint Ranges



Open Coil Unit



Sheath Wire Unit

Open Coil Units

This type of unit is composed of coils made of the highest grade of nickel chromium wire, securely fastened in the spiral grooves of a porcelain plate. This plate is of a composition specially designed to resist breakage from rapid heating or cooling.

Furnished for 100, 110 or 120-volt service only.

Catalogue Number.....	332H23	331H21
Capacity.....watts	1800	1000
Price.....each	\$7.75	\$5.00

Sheath Wire Units

This unit is made by inserting a coil of nickel chromium wire into an insulated tube, which is then placed in a mold and cast iron poured around it. This construction results in a highly efficient, fast and easily cleaned surface unit, adaptable particularly to hard service.

Furnished for 100, 110, 120, 200, 220, or 240-volt service.

Catalogue Number.....	231H12	231H11
Capacity.....watts	1800	1000
Price.....each	\$8.85	\$8.00

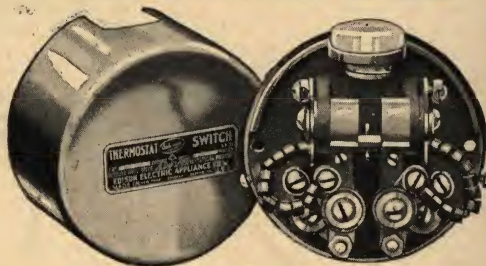
Oven Units

The same type of oven unit is furnished for all standard ranges. These are of 1500-watt and are easily removed or replaced. The large upper oven unit supplies an abundance of heat for broiling. This unit is not illustrated.

Furnished for 100, 110, 120, 200, 220 or 240-volt service and is standard equipment for all ranges.

Catalogue Number.....	331U101
Capacity.....watts	1500
Price.....each	\$8.25

Hotpoint Thermostat Switches



For regulation of heat these switches are recommended for use on all circulation heaters up to and including 2000 watts capacity. This maintains the heat of the water in the tank by opening the circuit when maximum of approximately 160 degrees Fahrenheit has been reached. On installation of more than 2000 watts and not exceeding 5000 watts capacity, use No. 415Y42 thermostat switch.

Additional information will be furnished upon request. When ordering give catalogue number and name.

Cat. No.	For Use with Heater No.	Shipping Wt., Lbs.	Price Each
Single-pole			
412Y4	W12 or W14	2½	\$12.50
412Y42	W20	3	12.50
Double-pole			
415Y4	W7	2½	\$15.00
415Y42	W20	3½	15.00

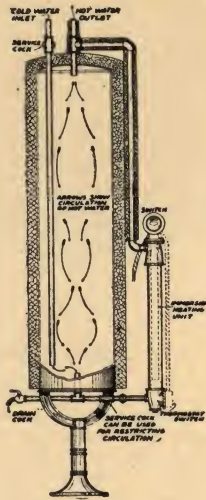


Hotpoint Water Heaters

Outside Circulation Type



Heater Complete



Heater Installed

The Hotpoint Circulation Water Heaters have been developed through years of experiment and practical experience in manufacturing and using electric water heaters.

These heaters may be connected by the local electrician and plumber to the usual galvanized hot water tank.

The circulation principle insures that hot water accumulates at the top of the tank and is available for use without heating the whole tank.

The heating unit utilizes the sheath wire construction. Standard pipe fittings are used for the casing. A cast iron terminal box provides for conduit wiring when required. A 3-heat switch is furnished on the larger sizes, the 600, 750 and 1000-watt sizes having single-heat switch. The unit is readily removable for cleaning; this is particularly important when scale is encountered in the water.

It is essential in installing electric water heaters that the storage tank be well insulated to prevent loss of heat.

Complete with Switch and Pipe Fittings

Cat. No.	Watts	Volts	No. of Heats	Shipping Wt., Lbs.	Price Each
117W20	750	110-220	1	35	\$28.50
111W20	1000	110-220	1	35	30.50
132W20	2000	110-220	3	40	37.45
133W20	3000	110-220	3	50	39.00
135W20	5000	220-240	3	60	47.20

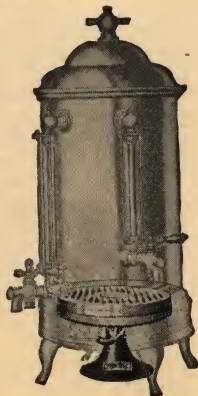
Hotpoint Coffee Urn Heaters

All Standard Voltages

Made in four sizes, with adjustable base, so that unit may be adapted to coffee urns of varying heights. Has black enameled stand equipped with three-heat switch, with gun metal finish cover. Equipped with three-heat switch in all four sizes, insuring economical operation.

Height of all four types is adjustable from minimum of 6 inches to maximum of 10 inches.

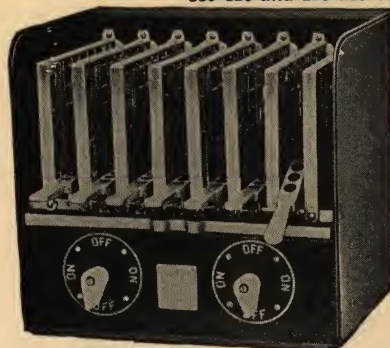
Cat. No.	Watts	Cap. Urn Gals.	Size In.	Ship. Wt. Lbs.	Price Each
UH8	880	3	6 1/2	9	\$11.50
UH11	1100	4	6 1/2	9	12.50
UH15	1500	5	8 3/4	16	14.00
UH18	1800	6	8 3/4	16	15.50



Hotpoint Hotel Type Toasters

110-120 and 220-240 Volts

Seven-slice



A seven-slice toaster that gives the utmost in practical operating satisfaction and withstands the heaviest demands on its continuous capacity.

Individual snap-switch control of each half-section of toaster makes possible the toast to seven at a time,

ing of any number of slices of bread, up in about one minute.

Bread is placed on "flipper" between protected sheathed wire heating units having no exposed live parts and instantly released "flipped out" when perfectly toasted.

An auxiliary highly polished casing can be furnished with this toaster when desired for display use at an additional cost.

Cat. No.	Size In.	Max. Watts	Ship. Wt., Lbs.	Price Each
423T15	11x12x12	3 K.W.	25	\$52.50
T8P32	11x13x12	.....	.....	\$5.00

Hotpoint Hotel Type Toasters

110-120 and 220-240 Volts

Sixteen-slice

An efficient sixteen-slice oven type toaster with heavily insulated walls to conserve heat. Has upper three-heat snap switches, each consuming 1500, 750, 375 watts on high, medium and low heats.

Furnished in 110-120 and 220-240 volts.



Cat. No.	Size In.	Max. Watts	Ship. Wt., Lbs.	Price Each
433T6	15x22x24	3 K.W.	64	\$66.00

Hotpoint Heavy Service Waffle Bakers

110-120 and 220-240 Volts



Operated at maximum speed, each of the three individual waffle irons is capable of turning out one of the large, heavy-bodied restaurant waffles every minute and a half, continuously. Total capacity of three-iron baker approximately 120 waffles per hour

Top and bottom of waffles are perfectly browned at the same time without any "turning-over" of irons, greatly increasing efficiency of operator. The services of a skilled operator are not required.

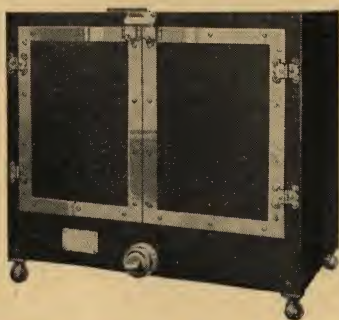
Polished steel top is made in one piece with front edge turned up. General construction is such as to protect fully all wiring, switches and electrical parts from possible contact with grease. The combination false bottom and removable clean-out pan is a desirable feature. Furnished in 110, 120, 220, 240 volts.

Cat. No.	Size In.	Max. Watts	Ship. Wt., Lbs.	Price Each
425Y44	16x32x21	4.2 K.W.	200	\$100.00



Edison Plate and Food Warmers

All Standard Voltages

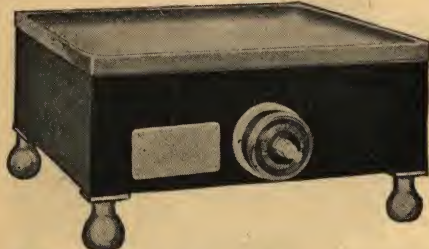


A substantially constructed plate and food warmer, the walls of which are heavily insulated to conserve heat. Fitted with swing type doors of substantial construction. These doors are fitted with center brace so that when closed they are unusually rigid. Each compartment is fitted with two units, one on each side, of 880 watts each. These units are controlled by three-heat switches. Finished in black enamel, nickel trim. Inside dimensions, 30 inches wide by 20 inches high by 17 inches deep.

Cat. No.	Dimens. Inches	Watts	Shipping Wt., Lbs.	Price Each
432N12	35x28x21½	1760	300	\$110.00

No. 433G3 Edison Griddles

110, 120, 220, 240 Volts



Strongly made of steel and cast iron. Equipped with nickel-plated legs. Has one heating unit controlled by three-heat switch, giving wattages of 3000-1500-750. Griddle has a

½-inch rim on all four sides.

Especially adapted to the economical and convenient service of hot cakes, eggs, steaks, chops, bacon, etc.

Cat. No.	Size Inches	Height Inches	Max. K. W.	Shipping Wt., Lbs.	Price Each
433G3	18x18	10	3	110	\$87.00

No. 436G3 Edison Griddles

110, 120, 220, 240 Volts



This solidly constructed electric griddle, mounted on sanitary nickeled ball feet, has a polished steel cooking surface. Comes with flat top only, with grease drain along front edge. Is equipped with two 3000-watt heating units, each controlled by a separate 3-heat switch, giving wattages of 3000-1500-750, insuring flexibility of heat control and economy of operation.

Cat. No.	Size Inches	Height Inches	Max. K. W.	Shipping Wt., Lbs.	Price Each
436G3	18x36	10	6	160	\$125.00

No. 439G3 Edison Griddles

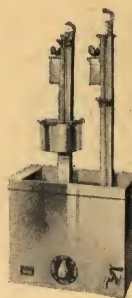
110, 120, 220, 240 Volts

The construction of this griddle is identical with the No. 436G3 except that the cooking surface is larger. Equipped with three 3000-watt heating units, so that each 18x18-inch cooking area is separately controlled by a 3-heat snap switch, giving wattages of 3000-1500-750, on high, medium and low heats respectively.

Cat. No.	Size Inches	Height Inches	Max. K. W.	Shipping Wt., Lbs.	Price Each
439G3	18x54	10	9	250	\$185.00

Edison Electric Egg Boilers

110, 120, 220, 240 Volts



This two-basket egg-boiler has an inner and outer casing of heavy copper, nickel-plated. If greater capacity is required any number of two-basket sections can be banked alongside each other, independent operations of each two-basket section insuring maximum flexibility of service at minimum operating cost.

Each two-basket section is equipped with two 1000-watt helical core sheathed wire heating units, controlled by a three-heat snap switch. In operation high heat will raise the temperature of water to boiling in about 14 minutes.

Cat. No.	Size In.	Max. Watt. K. W.	Ship. Wt., Lbs.	Price Each
432Y31	25x13x10	2	20	\$85.00

Edison Doughnut Stoves

220-240 Volts

This stove has been specially designed for use with the bake oven equipment. It has a cooking surface of approximately 20x18 inches, made up of two rectangular hotplates, each consuming 4000 watts, giving a total capacity of 8000 watts.

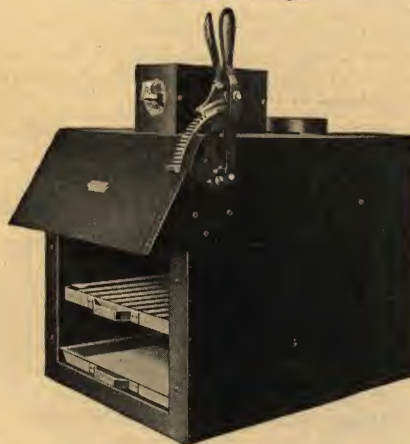
The units are connected in series multiple, controlled by one three-heat rotary snap switch with indicating button, giving heats of 8000-4000-2000 watts. Finished in white enamel.



Cat. No.	K. W.	DIMENSIONS, INCHES Diam. Height	Shipping Wt., Lbs.	Price Each
438D19	6	28 28	290	\$185.00

Edison Horizontal Broilers

All Standard Voltages



A substantially built horizontal broiler, with capacity of 36 two-pound steaks per hour. Equipped with one sheath-wire heating unit, consuming 5000 watts. Top of broiler is insulated 2 inches thick, which prevents loss of heat through upward radiation. Effective broiling area, 16x23 inches, which is sufficient for broiling 12 pounds of steak 1½ inches thick at one time.

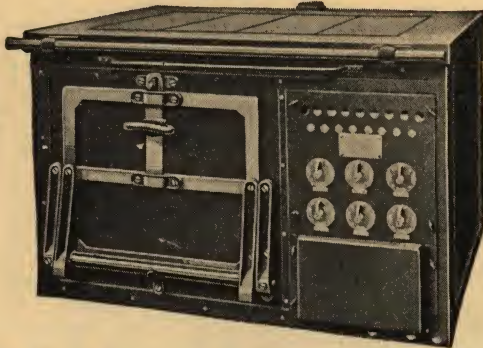
Top of broiler equipped with three-heat snap switch for controlling heating unit. With broiler is furnished substantial drip pan and gridiron on which meat is placed. Gridiron may be raised or lowered by means of lever, thus permitting ease in turning or removing meat.

Dimensions: Height, 30 inches; width, 23 in., depth 32 in.

Cat. No.	Size Inches	Voltage	Wattage	Shipping Wt. Lbs.	Price Each
435B1	30x23	220-240	5KW	277	\$200.00
425B5	30x23	110-120	5KW	277	200.00



Edison Hotel Type Ranges 220-240 Volts



This heavy duty range is especially designed for use in large hotels and restaurants. The frame is of heavy angle iron, welded at the corners. Range top is of steel, reinforced with angle iron below. Equipped with readily removable clean-out pan underneath entire cooking top.

The oven door will bear the weight of a 200-pound man on its outer edge when lowered. Because of its spring construction, however, it may be easily closed with practically no effort. Front of range is protected by guard rail.

Insulation has been carried out to a degree which reduces heat loss by radiation to a negligible factor, the thermal efficiency of the oven burners being approximately 100 per cent. Top heating units are of the helical core sheathed wire cast-in type and are efficient and long lived. They may be removed for renewal in a very few minutes by reason of the superior type of construction. Oven is furnished with upper and lower burners of three kilowatt maximum capacity each. Bottom burner is protected by cast iron perforated grid to allow free circulation of hot air.

Cat. No.	Dimensions Inches	Maximum Watts	Voltage	Shipping Wt., Lbs.	Price Each
432R111	31x39x48	22 K. W.	220/240	1300	\$680.00
432R118	31x39x48	22 K. W.	110/120	1300	680.00

Edison Hotel Range Cooking Tops

220/240; 110/120 Volts



Designed for use in conjunction with Nos. 2010, 2012 and 1512 ovens.

The baking and roasting ovens afford an actual baking capacity, the equal of a number of hotel range ovens, the Nos. 2010 and 2012 ovens for instance giving five times the baking capacity of one of the hotel range ovens. The total connected load or maximum wattage of the combination ovens is less than half that of hotel range ovens of equivalent capacity, insuring more economical current-cost for the same amount of work. A thermometer gauges temperature of each compartment in the combination ovens, and as there is no circulation of air between the compartments it is possible to maintain different temperatures and perform a different operation in each of the compartments at the same time.

Cat. No.	Dimensions Inches	Max. Watt. K.W.	Voltage	Ship. Wt., Lbs.	*Price Each
432R116	31x39x48	16	220/240	1200	\$475.00
432R119	31x39x48	16	110/120	1200	475.00

*Price covers top only.

Edison Horizontal Broiler and Warming Compartments

220/240; 110/120 Volts



This broiler has a capacity of 72 two-pound steaks per hour and embodies all desirable features. Effective broiling area of 32 inches wide by 23 inches deep is heated by two 5000-watt helical core sheathed wire units, each unit being independently controlled by a three-heat snap switch, permitting the use of each entire unit, the front half only of either or both units or either of both units entirely on low heat.

The warming compartment is designed for mounting on top of No. 431B6 broiler and gives the appearance of an integral device when assembled, trim and construction being of the same character as that of the broiler.

Black japan finish with polished steel trim.

Horizontal Broiler

Cat. No.	Size In.	K.W.	Voltage	Ship. Wt., Lbs.	Price Each
431B6	60x34x34	10	220/240	600	\$425.00
431B7	60x34x34	10	110/120	600	425.00

Warming Compartment

Cat. No.	Size In.	Ship. Wt., Lbs.	Price Each
B3P13	12x32x20	75	\$50.00

No. 100 Edison Single Deck Bake Ovens

110, 120, 220, 240 Volts



Has a capacity of 20 one-pound loaves or 2 standard 18x26-inch roll pans. Baking surface, 7 feet square.

The upper and lower elements of this oven are the same as those used in No. 200 multiple deck type oven. Each element is controlled by a separate switch having three-heats: high, medium and low. Equipped with tile deck and

thermometer. Standard finish is battleship grey with black enamel trim. White porcelain and polished nickel trim, extra. Steam connections, extra. Furnished with or without automatic temperature control.

Cat. No.	Description	Dimensions Inches	Watts	Ship. Wt., Lbs.
434N38	Automatic	58 x36x54	4.2 K.W.	800
434N39	Non-automatic	52 1/2 x36x54	4.2 "	800

No. 125 Edison Two-deck Bake Ovens

Consists of single deck, No. 100, on top of which is placed special top deck. Top deck cannot be used without the lower deck, as it utilizes the lower deck for heat insulation.

Cat. No.	Description	Dimensions Inches	Watts	Ship. Wt., Lbs.
434N43	Automatic	58 x36x67	8.4 K.W.	1400
434N44	Non-automatic	52 1/2 x36x67	8.4 "	1400

In ordering a top deck to be placed on the single section, the following Cat. Nos. should be used: 434N41 (automatic), 434N42 (non-auto.), this includes second deck and four short legs. Shipping weight, 650 pounds.

Prices upon application.



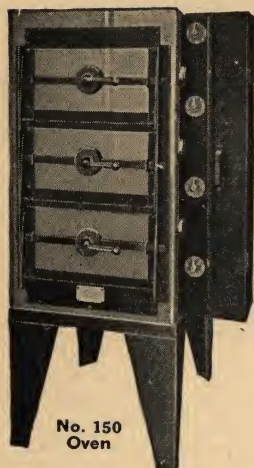
No. 150 Edison Electric Bake Ovens

110, 120, 220, 240 Volts

Has a capacity of 30 one-pound or three standard 18x26-inch roll pans, one to a compartment. Baking surface, 10 square feet.

Equipped with four heating units one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch having three heats: full, medium and low.

Equipped with tile decks and thermometers. White porcelain finish and nickel trim, extra. Steam fittings, extra. Standard finish, battleship grey with black enamel trim.



No. 150 Oven

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
435N20	69x37x37	8x27x19	5 K. W.	1200

No. 175 Edison Electric Bake Ovens

Similar in appearance and construction to No. 150, but with four compartments. Has a capacity of 40 one-pound or four standard 18x26-inch roll pans, one to a compartment. Baking surface, 14 square feet.

Equipped with five heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch having three heats: full, medium and low. Finish, equipment and extras same as No. 150.

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
436N21	73x37x37	8x27x19	6 K. W.	1250

Prices upon application.

No. 200 Edison Electric Bake Ovens

110, 120, 220, 240 Volts

Has a capacity of 60 one-pound loaves, or six standard 18x26-inch roll pans, two to a compartment. Baking surface, 21 square feet.

Equipped with four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch having three heats: full, medium and low.

Comes equipped with tile decks and thermometer. White porcelain finish and nickel trim, extra. Steam fittings, extra. Standard finish, battleship grey with black enamel trim.



No. 200 Oven

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
439N22	60x39x58	8x27x38	9 K. W.	1800

No. 215 Edison Electric Bake Ovens

Similar to No. 200 in construction and appearance, but with four compartments. Has a capacity of 80 one-pound loaves, or eight standard 18x26-inch roll pans, two to a compartment. Baking surface, 28 square feet.

Equipped with five heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch having three heats: full, medium and low. Finish, equipment, and extras same as No. 200.

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
431N23	76x39x58	8x27x38	11 K. W.	2200

Prices upon application.

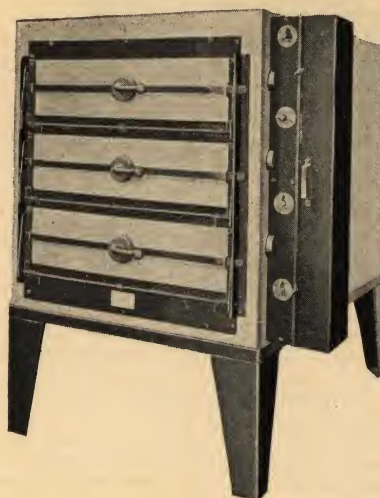
No. 220 Edison Electric Bake Ovens

110, 120, 220, 240 Volts

Has a capacity of 120 one-pound loaves or 12 standard 18x26-inch roll pans, four to a compartment. Baking surface, 41 square feet.

Equipped with four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch having three heats, full, medium and low.

Comes equipped with tile decks and thermometers. White porcelain finish and nickel trim, extra. Steam fittings, extra. Standard finish, battleship grey with black enamel trim.



fittings, extra. Standard finish, battleship grey with black enamel trim.

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
432N24	72x77x58	8x56x38	16 K. W.	3000

Prices upon application.

No. 300 Edison Electric Bake Ovens

Has a capacity of 180 one-pound loaves, or 18 standard 18x26-inch roll pans, six to a compartment. Baking surface, 61 square feet.

Equipped with four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by two separate switches, each switch having three heats: full, medium and low.

Tile decks, inside light for each compartment and three mercury thermometers included. White porcelain finish and nickel trim, extra. Steam fittings, extra. Standard finish, battleship grey, with black enamel trim.

Special construction Cat. No. 433N37, in two sections to permit assembling for moving through 30-inch doors, extra.

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
433N25	76x72x81	9x56x57	25 K. W.	5000

Prices upon application.





No. 2010 Edison Electric Bake Ovens

110, 120, 220, 240 Volts



Especially designed for packing houses, hotels, and institutions where large quantities of meat and meat loaf are baked. Cooking surface, 21 square feet.

Equipped with four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch giving three heats, full, medium and low. Comes equipped with tile decks and thermometers. Separate vent for each compartment. Compartments are independent of each other, making it possible to heat just one when a limited amount of baking is to be done. Standard finish, battleship grey with black enamel trim.

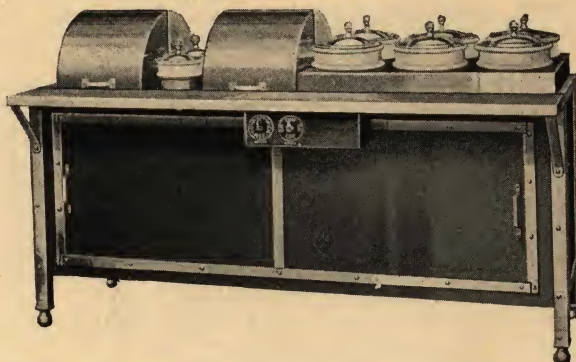
White porcelain finish and nickel trim, extra.

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartment		
431N5	70x50x58	10x27x38	14.5 K.W.	1800

Prices upon application.

Edison Electric Steam Tables

110, 120, 220, 240 Volts



The top is made of heavy copper with water pan below it of the same material, heavily tinned. The body is made of black japanned steel with all trimmings heavily nickleed. The warming compartment is fitted with horizontal sliding doors with nickel-plated handles. This compartment has middle and lower shelves made of galvanized iron in sections which are easily removed. Steam table proper contains six porcelain china vegetable dishes, each of two gallons capacity. These dishes have polished copper covers. Two porcelain china gravy containers are installed between the meat trays, each of the former having the capacity of one quart. Equipped with heating units of the sheath-wire type, one being mounted directly beneath the table, the other mounted vertically in warming compartment so as to give a uniform horizontal flow of hot air across edges of plates.

Cat. No.	Finish	Dimen. In.	Cap. Watts	Ship. Wt., Lbs.
436N10	Copper	72x31	6 K.W.	950
436N11	*Nickel	72x31	6 "	950

*Furnished in 220-240 volts only.

Prices upon application.

No. 2012 Edison Electric Bake Ovens

110, 120, 220, 240 Volts



This oven is made in another size, No. 1512, with half the capacity. Cooking surface of No. 2012, is 21 square feet. No. 1512 has 10 square feet cooking surface.

These ovens have one 12-inch and two 8-inch compartments. Four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch having three heats: full, medium and low.

Comes equipped with tile decks and thermometers. White porcelain finish and nickel trim, extra. Standard finish, battleship grey with black enamel trim. Steam fittings, extra.

No. 2012

Cat. No.	DIMENSIONS, INCHES		Maximum Wattage	Approx. Ship. Wt., Lbs.
	Outside	Compartments		
431N4	76x46x58	12 and 8x27x38	9.5 K.W.	1800

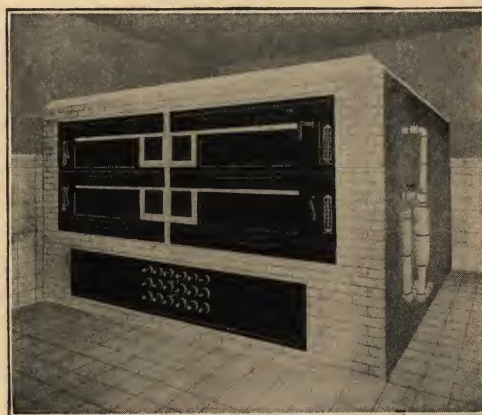
No. 1512

436N3	70x37x37	12 and 8x27x18	5.5 K.W.	1000
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Prices upon application.

No. 415 Edison Electric Bake Ovens

110, 120, 220, 240 Volts



Has a capacity of 600 one-pound loaves, or 60 standard 18x26-inch roll pans, 15 to the small or 30 to the large compartment. Baking surface, 209 square feet.

Equipped with six heating units, each unit is operated by three three-heat switches. Equipped with tile decks, inside lights and four mercury thermometers. Oven is made with or without a solid center wall.

Outside dimensions: height, 87 inches; depth, 175 inches; width, 160 inches. Compartments: height, 11 inches; depth, 134 inches; width, 114 inches. If center wall is installed the compartments are just half this size. Over-all width with center wall is 166 inches.

Cat. No.	Type No.	No. of Loaves	Max. Watts	Approx. Ship. Wt., Lbs.
*438N32	415	600	80 K.W.	32000
†438N33	415	600	80 K.W.	32000
433N31	315	240	35 K.W.	22000
433N19	400	400	54 K.W.	28000

*2Compartment. †4 Compartment.

Prices upon application. Installation charges must be added.



No. 6½B American Beauty Irons



The 6½-pound iron is the exact size, weight, and shape for general all around household and laundry use.

Extra large ironing surface. Has large, comfortable, always cool wood handle. Has round noncorroding contacts and a durable composition switch plug, always cool enough to handle.

Made in the following standard voltages: 95-104, 105-120, 121-130, 190-209, 210-240, 241-260.

Cat. No.	Size Inches	Watts	Net Wt., Lbs.	Approx. Shipping Wt. Lbs.	Case of Six Shipping Wt. Lbs.	Price Each
6½B	6½x3¾	525	6½	8¼	53	\$7.50

No. 685 Simplex Heating Pads

The three heat feed through switch enables the pad to be kept as hot as wanted.

The temperature of the pad is controlled by a thermostat designed to limit the maximum heat to about 180° F.

Moist applications such as poultices and compresses, can be kept warm by using a rubber case.



SPECIFICATIONS.—Voltages 100-125; 200-250. Watts, 60. Three heats. Size, 12x15 inches. Shipping weight, 3 pounds.

Price, No. 685each **\$8.50**

Armstrong Table Stoves



The Armstrong Table Stove cooks three things at once—boils, fries or bakes griddle cakes above the unit; makes toast or waffles between sections of the heat unit; grills or broils below.

It has a tilting connection plug that never sticks, this prevents burned fingers and spilled foods and affords a convenient means of heat control. The Armstrong has aluminum cooking utensils—including a deep boiling pan, egg cups and rack, toaster drawer and a large griddle.

Operates on direct or alternating current, 105 to 120 volts, 600 watts consumed.

Can be furnished in any special voltage from 32 to 250 volts on special order, without additional cost.

Made of pressed steel, nickel-plated. Heating chamber finished in durable white enamel which cannot discolor from heat and is easily cleaned. Cooking utensils, 7 inches square; base, 7¾ inches square; height, 6½ inches.

Each stove is packed in individual carton; 6 cartons in standard package for shipping.

Shipping weight, each, 7 pounds.

Price, Stove Complete.....each **\$12.50**

Waffle Mold Attachment for Armstrong Table Stove



A waffle mold to be used between the heating elements of stove, in place of the toaster drawer. Made of cast aluminum.

Price, Waffle Mold Attachment.....each **\$4.00**

Electric Boilerettes



Boilerette

The Electric Boilerette is a practical combination of an electrically heated, insulated, automatically controlled copper storage tank which can be connected to the water-supply system in the kitchen like the familiar range boiler or in any room where water pipes and electric current are available.

Many office buildings, factory wash rooms first-aid rooms, garages, etc., have no hot water available.

A small Electric Boilerette tucked under the lavatory or in a corner nearby, will provide an adequate, ever-ready supply at a moderate cost.

CONSTRUCTION.—The inner container is a 250-pound test extra heavy copper boiler, built to comply with Massachusetts regulations. As copper cannot rust, this means permanent protection against rusty water, clogged pipe, leaks, and general inconvenience. The slightly higher cost is saved over and over by the repair-proof service afforded. The copper container assures pure clean hot water and a long life to the installation.

The heat insulation is 1½ inches thick.

Outer tank is of galvanized sheet steel enameled gray.

A durable and dependable electric heater immersed in the water.

An automatic temperature control.

Relay switch (with all D.C. equipments and with A.C. equipments over 1000 watts).

OPERATION.—In the Electric Boilerette all the heat is generated in the water, and little can escape because of the thorough insulation. Furthermore, by means of the automatic control, electrical energy is used only to bring the water up to 155° F. and to replace the slight radiation losses. After that temperature is reached, and until the water is drawn off and more cold water comes in, the heater is automatically disconnected.

About two hours are required, to heat the entire contents of the tank, so it is essential that a Boilerette of adequate capacity be installed.

DESIGNED TO THE FOLLOWING USES.—5 gallon size for wash rooms in office buildings, garages, schoolrooms, factory hospitals, etc.

10-gallon size for summer cottages, small barber shops, factory wash rooms or offices where several people wash up in succession.

20-gallon size for apartments or small homes.

30-gallon size for private houses with one bath, laundry, two or three lavatories, etc.

Larger sizes for special conditions.

Cap. Gal.	Diam. In.	Height In.	Heating Electric Watts	Standard Voltage	Approx. Wt., Lbs. Boxed	Price Each
5	13	20	600	110 and 220	90	\$95.00
10	15	26	1000	110 " 220	100	125.00
20	15	46	3000	110 " 220	200	185.00
30	16	66	5000	110 " 220	340	275.00

Above prices include relays on all D.C. equipments and on all A.C. equipments over 1000 watts (the 5-gallon and 10-gallon A.C. equipments do not require relays).

When ordering, be sure to specify voltage of the circuit, whether it is A.C. or D.C., and if A.C., the number of cycles.

Full instructions for making the simple plumbing and electrical connections are packed with each equipment.



Copper Inner Tank



G-E Jacketless Glue Pots

Single Heat



Made of a single aluminum casting. Aluminum is used not only because of its remarkable qualities as a heat distributor but also because the unctuous surface of the metal prevents the glue sticking to the sides of the pot.

Always specify voltage when ordering.

Each pot is provided with connection plug, 8 feet of cable, and socket attaching plug.

Cat. No.	Type	Volts	Watts	Cap. Quarts	Ship. Wt., Lbs. Each	Price Each
269852	I-1	100	70	1	4 $\frac{3}{4}$	\$17.00
269853	I-1	110	70	1	4 $\frac{3}{4}$	17.00
269854	I-1	120	70	1	4 $\frac{3}{4}$	17.00
269855	I-1	220	70	1	4 $\frac{3}{4}$	17.00
269856	I-1	240	70	1	4 $\frac{3}{4}$	17.00
259988	I-64	100	90	2	5 $\frac{1}{2}$	19.50
259989	I-64	110	90	2	5 $\frac{1}{2}$	19.50
259990	I-64	120	90	2	5 $\frac{1}{2}$	19.50
259991	I-64	220	90	2	5 $\frac{1}{2}$	19.50
259992	I-64	240	90	2	5 $\frac{1}{2}$	19.50
259993	I-68	100	140	4	7 $\frac{3}{8}$	22.00
259994	I-68	110	140	4	7 $\frac{3}{8}$	22.00
259995	I-68	120	140	4	7 $\frac{3}{8}$	22.00
259996	I-68	220	140	4	7 $\frac{3}{8}$	22.00
259997	I-68	240	140	4	7 $\frac{3}{8}$	22.00
153500	I-6	100 to 240	250	8	25	27.00

G-E Water Jacketed Glue Pots

Three Heat

Employs the usual water jacket common to other types for heating the glue, and permits the use of a "high starting heat" to cause a rapid melting of the glue.

Especially applicable to circuits where extreme voltage fluctuations are liable to occur, for the water jacket automatically compensates, by its increased evaporation, for any excess current. Each pot is provided with connection plug, 8 feet of cable, and a three-heat plug and receptacle on the cable. Specify voltage, when ordering.



Cat. No.	Type	Volts	Watts			Cap. Qts.	Ship. Wt., Lbs. Each	Price Each
			Low Heat	Medium Heat	High Heat			
153502	I-16	100 to 240	110	220	440	1	26	\$21.00
153503	I-17	100 " 240	170	340	680	2	31	31.00
153504	I-18	100 " 240	275	550	1100	4	43	37.50

G-E Calorized Soldering Irons

Designed for light or intermittent work. The copper tip is "calorized,"—a process which forms a protective coating and thereby reduces to a minimum the oxidation of the copper.

The removable heat unit is of the "cartridge type."



Cat. No.	Type	Watts	Diam. Tip In.	Weight, Oz. Tip Complete	PRICE, EACH		
					95-125 Volts	32 Volts	220-240 Volts
153506	I-8	75	1 $\frac{1}{2}$	2 25	\$8.50	\$8.70	\$9.20
153507	I-9	100	3 $\frac{1}{4}$	8 28	8.60	9.00	9.50
153508	I-10	150	1	16 33	9.50	9.85	10.30
153509	I-11	200	1 $\frac{1}{4}$	32 42 $\frac{1}{2}$	10.90	11.35	11.70
153510	I-12	275	1 $\frac{1}{2}$	48 54	12.45	13.00	13.25

G-E Clamp-on Units

110 or 220 Volts



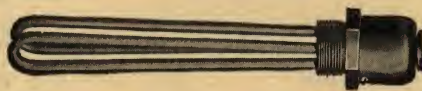
One steel strip for the Clamp-on Unit is bent up along either edge to form a channel about $\frac{1}{4}$ -inch deep, the face being left perfectly flat. The other strip, of a width to just fit in the channel, has a central rounded groove whose depth equals the diameter of the sheath wire. This strip when welded in the channel, clamps the sheath wire firmly against the latter and helps to conduct the heat to the flat face of the channel. Terminals are offset $\frac{3}{16}$ -inch giving clearance for connections.

Cat. No.	Watts	No. of Heats	Length Over All In.	HEATING SURFACE INCHES Length	Width	Approx. Ship. Wt., Lbs.	Price Each
244705	500	1	23 $\frac{3}{4}$	20	1 $\frac{1}{2}$	2	\$3.85

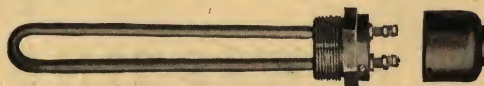
G-E Immersion Heaters

110 or 220 Volts

Water Immersion Heaters



Three-heat, from 1200 Watts Up



One-heat, 1 Kw.

An immersion unit offers the most economical method of heating kettles, tanks, metal barrels, etc.

The 600-watt, 1 and 2 kw. units consist of a rugged tinned copper tube, inside of which is one heating unit, held firmly in place and thoroughly insulated from the outside sheath or tube by a material having a melting point higher than that of steel. The 3 and 5 kw. heater consists of a rugged steel tube sealed at one end, inside of which are two heating units. All immersion units during operation must be entirely immersed from the end of the unit to the nut on the threaded collar to prevent overheating.

Nos. 236235, 261190, 261191, 236236 and 246260 are equipped with No. GE986 single-heat tumbler switch. Nos. 246261, 236237, and 245587 are equipped with No. 169900 3-heat snap switch.

Cat. No.	Kw. Demand Max.	Length Over All Inches	Approx. Shipping Wt., Lbs.	No. of Heats	110 Volts		220 Volts	
					Price Each	No. of Heats	Price Each	
236235	0.6	7 $\frac{1}{2}$	2	1	\$9.00	1	\$9.00	
*261190	0.75	10 $\frac{7}{16}$	2	1	9.50			
*261191	0.75	10 $\frac{7}{16}$	2	1		1		9.50
236236	1	12 $\frac{1}{2}$	2	1	10.00	1	10.00	
*246260	1.2	14 $\frac{1}{2}$	2 $\frac{1}{2}$	1	10.50			
†246261	1.2	12 $\frac{1}{2}$	3	3	12.50	3	12.50	
236237	2	12 $\frac{1}{2}$	3 $\frac{1}{2}$	3	14.00	3	14.00	
†245587	3	18	6	3	20.00	3	20.00	
†246263	4	24	6	3	21.00	3	21.00	
†245588	5	26	8	3	23.50	3	23.50	

*Same construction as 1 Kw. unit.

†Same construction as 2 Kw. unit.

†These heaters for operation on a 220-volt circuit may be operated single heat on a 440-volt circuit, by running the two units in series.

Specify voltage of circuit when ordering.

Oil Immersion Heaters

Three-heat

This heater consists of two steel sheath wire units, each containing one heating element held firmly in place and thoroughly insulated from the outside sheath or tube. The two units are fitted in a threaded brass collar to which they are brazed. The terminals, four in number, are protected by a removable japanned sheet metal cap. Three heats are obtainable on a 110 or 220-volt circuit, the intermediate and low heats dissipating respectively one-half and one-quarter of the maximum number of watts.

Cat. No.	Kw. Demand Max.	Length Over All Inches	Approx. Shipping Wt., Lbs.	No. of Heats	Price Each	No. of Heats	Price Each
245668	2.5	26	6	3	†\$22.00	3	\$22.00

Specify voltage of circuit when ordering.

†This heater may be operated single heat on a 440-volt circuit by running the two units in series.

We are Exclusive
New England Distributors for the



ELECTRIC
WASHING AND IRONING
MACHINES
and
VACUUM CLEANERS

It is the only line that offers the dealer the opportunity of securing all of the leading types of washers that have won the favor of the American public.

These machines are the product of America's foremost manufacturer in this field. They are in use in over 800,000 homes.

PETTINGELL-ANDREWS COMPANY

"The Height of Excellence in Electrical Goods and Service"





Nos. 25 to 28 Hurley-Thor Washing Machines



The upper part of the body and the cylinder are built of fine clear grained wood. The lower part is either 26-gauge heavily galvanized steel or 20-ounce copper.

Equipped with the Hurley-Thor 5-position Reversing Swinging Wringer. The wringer frame is built entirely of metal. The rolls are of soft cushion type, providing greater safety and eliminating broken buttons.

Shafts and gears entirely enclosed. Equipped with push button switch to start or stop the motor. The washing and wringing operations are controlled by convenient placed handles.

Furnished complete with motors for any current.

Copper or galvanized steel bodies with copper, wood or metal cylinders are furnished.

Cat. No.	Floor Space, In.	CAPACITY			WT., LBS.	
		Sheets	Towels	Napkins	Net	Crated
25	25 x 33	6	72	120	245	300
*27	26 1/2 x 40	9	108	180	255	345
*28	27 x 40	12	144	240	260	370

*Have stationary wringers.

Prices and further information upon request.

No. 32 Hurley-Thor Electric Washing Machines



The body of Hurley-Thor 32 is constructed entirely of steel—strong and durable and capable of withstanding the hardest usage. The interior of the body is of heavy galvanized steel or copper. The curved top is so arranged that it can be thrown back or easily detached.

Equipped with the Hurley-Thor All-metal 5-position Swinging Wringer with soft cushion rolls that cannot break buttons.

It is operated by shafts and gears entirely enclosed in metal housings. It is finished in Thor Gray with copper trim.

Furnished in either copper or galvanized steel body, with special Luminoid cylinder.

Capacity: 8 sheets or 96 towels. Floor space required: 25x38 inches. Length of wringer rolls: 11 inches. Weight: 260 pounds; crated 350-360 pounds.

Prices and further information furnished upon request.

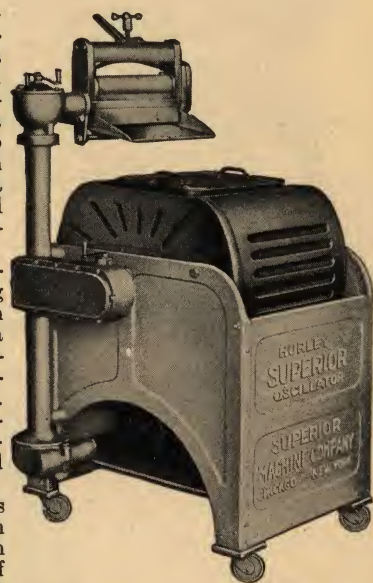
Superior Oscillator Electric Washers Copper

Heavily tinned inside and highly polished outside, with a cast aluminum cover. The 1-inch drain faucet is threaded for a hose connection. Tub is driven direct from motor through a spiral gear with ball bearings on the speeder shaft.

Wringer is connected to oscillating mechanism through a spiral gear with a lever that permits removal of tub independently of lever. Oscillating mechanism has a ball bearing connecting rod and gear box.

Tension springs which hold tub in horizontal position when idle, are of highest grade with tips packed in grease and wick oiled. Mechanism is protected by a one-piece cast aluminum housing, packed with hard grease, making machine as nearly as possible self-oiling. Wringer is of the standard Hurley type, equipped with Thor Button Saving Soft Cushion Rolls. Standard Thor 2 1/2-in. Swivel Casters are supplied. Furnished complete with motors for any current.

Capacity: 6 sheets. Floor space required: 22x27 inches. Length of wringer rolls: 11 inches. Weight: 136 pounds. Crated, 200 lbs. Prices upon application.



Hurley-Superior Vacuum Cup Washers

Copper

Hurley all metal, eight position, swinging wringer with soft Cushion Rolls, and a handy release. Polished copper tank, heavily tin-plated inside, with rounded, concave bottom which is reinforced with sheet steel. Easy to drain and clean.

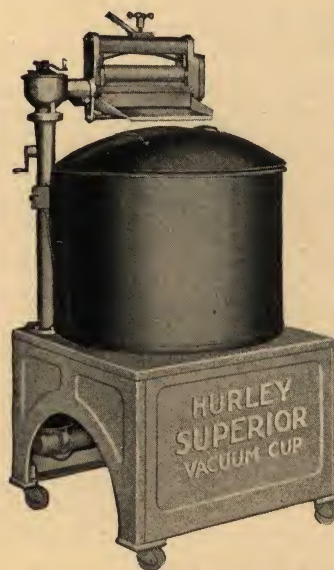
Supported by solid steel frame having steel cabinet which is attractive in appearance and acts as protection against bruises to tank and accidents to children. Mechanism is simple and silent. No belts.

The elimination of moving parts in this machine is a chief feature. Ball bearings and oilless bearings throughout with accessible oiling places. G. E. compound wound, splash proof motor with superior automatic cutout.

Die cast aluminum yoke, light and simple to lift. No ratchet. Clam shell type vacuum cups which operate by friction.

Four sturdy legs with over-size casters prevent tipping and ensure easy rolling and perfect drainage. Large attached gas burner. Capacity 8 sheets; floor space: 24 x 24 inches; length of wringer rolls: 11 inches; weight: 135 pounds; crated: 200 pounds.

Prices upon application.





Hurley-Thor Electric Ironing Machines



The Hurley-Thor Ironer is built entirely of metal, with the exception of the feed board. It will stand up under the heaviest duty.

Uniform pressure and the polished heating surface give to linens that special gloss which only uniform pressure can give.

The Hurley-Thor Ironer does flat work beautifully—but with the open-end roll its usefulness is almost unlimited. With its soft collars, cuffs and neckbands, ruffles and flounces can be ironed easily. This gives the Hurley-Thor Ironer almost 100 per cent efficiency.

The Hurley-Thor is equipped with a regular speed for ironing large pieces such as sheets and table linen, and a special fast speed to hasten the ironing of small pieces such as napkins, handkerchiefs, etc. Even pressure on the roll is maintained at all times, yet a touch on the small dial control releases the pressure instantly.

Another feature is the wide-opening shoe. Two metal buttons on the shoe control lever permit adjustment to three positions: close, medium and wide. At the wide position a four-inch opening is afforded, making waxing and cleaning easy.

The ironing shoe on the Hurley-Thor is controlled by a small lever conveniently located at the right of the feed table. A touch of the finger applies or releases the shoe. The actual pressure is applied by a toggle joint and spring device actuated by the through gears.

It is unusually easy to operate. No speed skill is necessary.

The cost of operation is extremely low—usually about 5 cents an hour for both gas and electricity.

Large swivel casters make the machine easy to move into any out of the way corner when not in use.

No. 75 Hurley-Thor Ironers

The Hurley-Thor No. 75 Automatic Ironing Machine is made in three styles, gas heated, gasoline heated and electric heated; can be furnished with motor for any current. The ironing length of the roll is 44 inches.

Description	Weight	
	Net	Crated
Gas Heated.....	325	480
Gasoline.....	325	500
Electric.....	340	495

No. 90 Hurley-Thor Ironers

The No. 90 Hurley-Thor Ironer is exactly the same as the No. 75 except that the ironing length of the roll is 50 inches. Made in two styles, gas heated and gasoline heated.

Description	Weight	
	Net	Crated
Gas.....	350	500
Gasoline.....	365	575

Prices quoted upon application.

Standpat Ironing Boards

A practical equipment for the ironing of fancy wearing apparel. Has a substantial iron base so balanced that it need not be fastened to floor.

The ironing boards are made of white seasoned pine; main board is 16 inches wide at rear, tapering to 10 inches at front, by 54 inches long, and may be lifted clear off base



for repadding. The sleeve board is 27 inches long, 4 inches wide, tapering to 2½ inches, and swivels on an iron arm hinged to base and the operator retains the iron in her right hand for ironing the sleeves, the body of the garment resting on the main board.

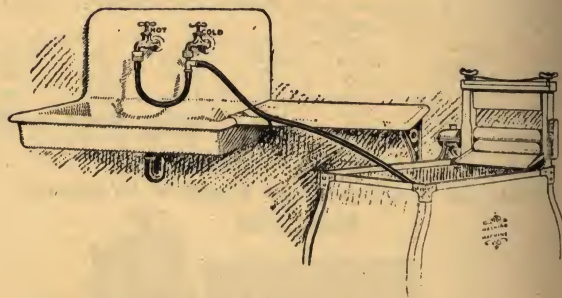
An indicating switch controls current and the pilot shows whether current is on or off. The steel spring arm keeps the cord out of the way of the operator's arm.

The iron rest and stove with sponge and waste cup is to right of operator.

Finished in gray to match ironing machines.

Prices upon application.

Sipho Filler-Drainers



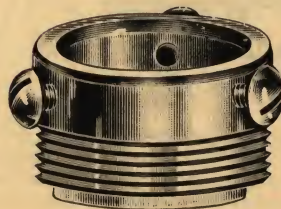
To fill, tighten elbow coupling to cold water faucet and attach short hose coupling to hot water faucet.

To drain or empty machine, remove short end from hot water faucet and drop into sink. Then turn on cold water faucet, full force, and draining starts immediately.

Furnished complete with tubing and all connections.

Price, Complete, Ready for Use.....each \$2.50

Sipho Faucet Adapters



A threaded attachment for use on smooth type faucets. Fastened by three screws. Rubber washers provide a tight joint.

Price.....each \$.25

Hurley Washing Machine Soap Powder



Hurley Soap is made especially for use in washing machines. It is granulated and each tiny granule is quickly and entirely soluble.

Six tablespoonfuls is plenty for the average family washing of five or six cylinders.

Price upon application.

**Model 77 Hurley-Thor Vacuum Cleaners**

The Hurley-Thor Vacuum Cleaner keeps rugs and carpets fresh and sanitary, straightens the nap and brightens the color. It does its work quickly, silently and gives the operator more time for other household duties.

Used to clean upholstered furniture, draperies, automobile interiors, pianos, mattresses, pillows, the top of door frames and mouldings, and other inaccessible places.

Has a self-adjusting nozzle which protects your floor coverings, whether they have a thick or a thin nap.

The shaft-drive brush saves the trouble and annoyance of breaking and slipping belts. There is no harmful sweeping action of the soft-bristled brush. Correctly speeded to merely flutter the carpets and loosen the embedded dirt, it permits the powerful suction to gather everything into the durable bag.

The hand-fitting shape of the pistol grip handle keeps the arm in a comfortable position. The trigger switch which controls the motor is right at the finger-tip.

When cleaning draperies, pillows and other things besides rugs and carpets, just raise the little lever which releases the round cap and exposes a threaded opening and insert the suction attachments. Attachments for blowing are just as easily applied.

These cleaners are sturdy and substantial and will last a lifetime, because there is nothing to get out of order and nothing to replace.

Guaranteed for one year.

Prices upon application.

Model 62 Exemplar Electric Vacuum Cleaners

The Model 62 Exemplar Vacuum Cleaner is efficient and easy of operation.

It has a powerful suction that gets the embedded dirt and a detachable brush for use in sweeping up threads, hair, lint, etc. It thoroughly cleans all surfaces from bare floors to the longest nap rugs.

Attachments are furnished for cleaning places and objects inaccessible to the cleaner itself.

The Model 62 Exemplar has the bag placed on the right hand side of handle out of the operator's way.

A trigger switch is conveniently located in the handle. Handle is of fibre with rubber bumper to prevent marring of furniture.

Equipped with General Electric type horizontal motor, self-cooling, small, compact and powerful.

Large swivel caster in rear makes guiding easy.

Body is of strong cast aluminum and is light in weight. Special nozzle adjustment gives correct cleaning position for all kinds of surfaces.

Has long metal trap in bag. Cannot choke and prevents dirt falling back onto floor when disconnected. Has bayonet bag connection; a quarter turn fastens it.

Nozzle is 13½ inches wide and is scientifically designed.

Prices upon application.



No. 1 Shelton Physicians' Vibrators

This vibrator is made for any electric lighting circuit, 110 or 220 volts. Fully guaranteed.

Equipped with special air-cooled motor and regulating lever for obtaining mild, medium or strong vibration.

Black enamel finish.

Price No. 1.....each **\$45.00**

No. 19 Shelton DeLuxe Vibrators



This vibrator is made for any electric lighting circuit, 110 or 220 volts. Fully guaranteed.

This vibrator has an air-cooled motor, perfect regulation and is light in weight. The strength of vibration is controlled by an ingenious lever that changes the stroke that can be used in electric massage. Bright aluminum finish.

Cat. No.	Rated Vibration H. P.	Weight Ounces	Price Each
19	$\frac{1}{8}$	30	\$35.00

No. 71 Shelton Special Vibrators



This vibrator is made for any electric lighting circuit, 110 or 220 volts. Fully guaranteed.

This vibrator has a rapid penetrating stroke which gives a most vigorous massage. It can be instantly regulated to a gentle mild vibration.

Bright aluminum finish.

Cat. No.	Rated Vibration H. P.	Weight Ounces	Price Each
71	$\frac{1}{6}$	29	\$25.00

No. 75 Shelton Gentry Vibrators



Equipped with stroke regulator, strong vibration, suitable for scalp, facial and body massage.

This vibrator is made for any electric lighting circuit, 110 or 220 volts. Fully guaranteed.

Shelton Vibrators are simple in construction, strong and durable.

Cat. No.	Rated Vibration H. P.	Weight Ounces	Price Each
75	$\frac{1}{8}$	26	\$19.50

No. 54 Shelton Hair Dryers

No. 54 outfit throws a large volume of hot or cold air. The motor is universal, operating on both alternating and direct current, 110 volts. This dryer can be put to many uses.

Ideal for home use.

Made of aluminum. Unequaled in quality. Diameter of blower, $3\frac{1}{2}$ inches; diameter of tube, $1\frac{1}{2}$ inches.



Price, No. 54, with Case.....each	\$25.00
" " 54, without Case....."	23.50

No. 55 Shelton Pedestal Hair Dryers



Throws a large volume of either hot or cold air. The device is odorless and sanitary. The telescope air tube can be adjusted from fourteen to twenty-four inches in length. The motor is swivel mounted and the operator can direct the air in any direction. A disk on the side regulates the temperature. The three points on the indicator switch are hot, cold and stop.

Nickel-plate finish. Diameter of blower, 9 inches; diameter of tube, 3 inches; height, 4 feet.

Price, No. 55, Complete, ea.	\$75.00
" Special Windings, Extra.....each	5.00

Type A Shelton Pedestal Hair Dryers

Due to special design of heating element the air passage of this machine permits of the largest volumes of either hot or cold air that has ever been designed for a dryer. Three speeds of motor which also controls heat.

Built for continuous service.

Noiseless operation.

Type A is constructed for all electric operation.

Type B is designed for a combination of gas and electricity.

Price.....each **\$100.00**

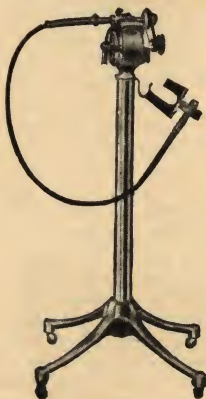




No. 80 Shelton Ideal Pedestal Massage Machines

A massage with the Ideal produces an active exhilaration and causes a pleasant, warm glow to pervade the whole system, increasing and equalizing the circulation and nerve action, imparting a feeling of buoyancy and freedom, which has only to be tried to be appreciated. This machine is also made in high voltage for export.

Universal motor, alternating or direct current, 110 volts.



No. 80

Outfit complete with Vibro-hand attachment as shown.

Price, No. 80.....each \$80.00

No. 81

Outfit complete with massage cup handle and four applicators.

Price, No. 81.....each \$80.00

No. 82

Combination of outfits Nos. 80 and 81 complete.

Price, No. 82.....each \$90.00

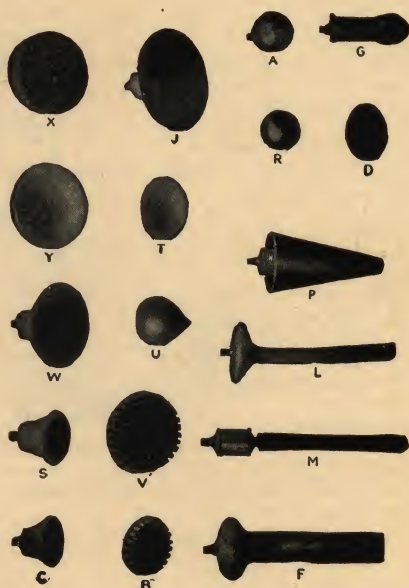
No. 83

Outfit with Oscello-percussion handle for physicians.

Price, No. 83.....each \$80.00

Extra hand-piece....." 15.00

Shelton Massage Vibrator Applicators



Cat. No.	Description	Price Each
A	Hard Rubber Ball Applicator.....	\$.60
B	Soft " Brush ".....	.60
C	" " Cup ".....	.60
D	Hard " Disc ".....	.60
F	Soft " Vaginal Applicator for Physicians..	2.25
G	Hard " Rectal ".....	1.25
K	Soft " Attachment for M and P.....	.75
L	" " Rectal or Vaginal Applicator for Physicians.....	1.50
M	Hard Rubber Prostatic Applicator for Physicians.	2.00
P	" " Cone Rectal ".....	2.00
T	Soft " Disc Applicator.....	.60
U	" " Vacuum Half-Ball Applicator.....	.60
W	Large (2½-in.) Soft Rubber Cup.....	1.00
X	Sponge Applicator 3-inch.....	1.00
Y	Soft Rubber (2½-in.) Disc Applicator.....	1.00

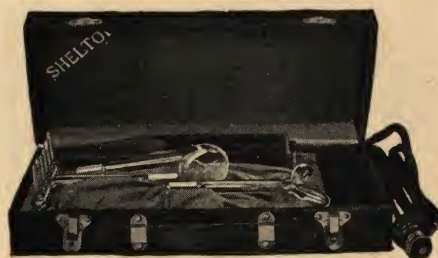
No. 20 Shelton Violet Rays



Has high efficiency generator.
Complete with surface electrode.

Price, No. 20.....each \$12.50

No. 22 Shelton Violet Rays



Has high frequency generator.
Laboratory model, complete in silk-lined case, with surface, comb and throat electrodes.

Price, No. 22.....each \$20.00

No. 23 Shelton Violet Rays



Has high frequency generator.
Laboratory model, complete in silk-lined case, with surface, comb, eye and throat electrodes and metal handle.

Price, No. 23.....each \$25.00

No. 199 Shelton Violet Rays

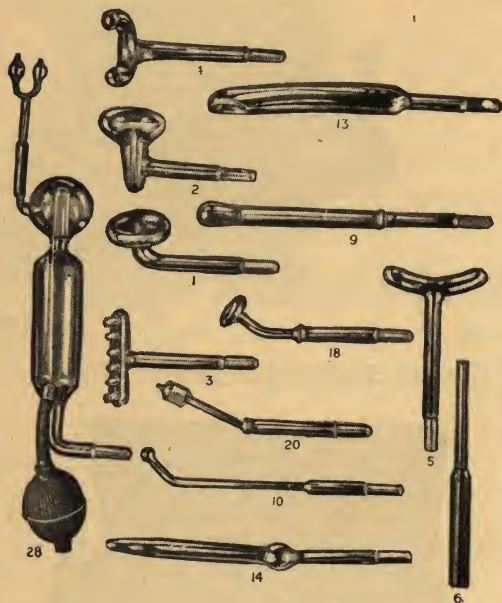


In self-contained leatherette carrying case. Size, 11½x5½x4½ inches. Surface, comb, and throat electrodes.

Price, No. 199.....each \$15.00



Shelton Violet Ray Electrodes



Cat. No.	Description	Price Each
1	General Surface.....	\$1.00
2	Large Condenser Electrode delivers strong current. Recommended for treating Rheumatism, Lumbago, etc.....	3.00
3	Large Comb for Scalp or Body.....	2.00
4	Spinal Electrode.....	1.50
5	External Throat, Arms or Limbs.....	1.00
6	Metal Handle used for giving Indirect Treatment	1.25
6A	Glass Handle with Metal Interior for giving Indirect Treatments.....	2.00
9	Insulated Prostatic Electrode.....	2.00
10	Ear Electrode or Internal Throat.....	1.00
13	Plain Vaginal.....	1.00
14	Plain Rectal, Small Diameter.....	1.00
18	Eye Electrode, also used for Corns.....	1.00
20	Fulguration Electrode for Removal of Warts, Moles, Diseased Growths, etc.....	2.00
28	Ozone Generator, Complete with 1-ounce bottle of Inhalant, Nose and Mouth-piece, and Bulb.	10.00

No. 27 Shelton Phonograph Motors



It is small enough to permit closing of the cover of the cabinet.
 Price, No. 27, Complete (Not Universal).....each **\$25.00**
 " Resistance Unit to Operate on High Voltage
 Circuits.....each **3.00**

Thermolite Heat and Light Applicators



No. 0645

The Thermolite is a simple, convenient, but scientific device for duplicating the effect of the sun's rays. It is a well recognized fact that heat and light, both relieve and cure. In the Thermolite, light and heat are generated in a special patented electric lamp contained in a reflector so constructed that these soothing agents when applied to the aching parts not only act on the surface of the skin, but penetrate the actual tissue, relaxing the congestion and relieving the pain.

It may be applied with perfect safety for the relief of almost any pain and has been found very efficient in the treatment of sprains, bruises, muscular soreness, neuralgia, lumbago, rheumatism, neuritis, stiff neck, stomach and abdominal pains, backache, constipation, headache, head colds, pulmonary effects; also for use in massage and treatments by manipulation, drying hair and many other purposes that require a convenient application of heat.

Thermolites are used and recommended by physicians and patients, and are in use in all government hospitals.

The reflector so directs the heat rays of the special lamp that they produce the best results with minimum current consumption, and without the rapid deterioration of the filament, which is so annoying in other therapeutic lamps.

The heat rays are effective over an area of approximately 50 square inches and not focused in a small burning spot.

The outside shell and inside reflector are constructed of aluminum, making the Thermolite very light in weight (16 ounces) which permits prolonged treatment without fatigue.

The Thermolite is carefully and substantially made of best materials has no complicated parts to get out of order, and with ordinary care will last a lifetime.



No. 0670 With Stand

No. 0645

Description	Price Each
Hand Model, 8-inch Reflector.....	\$10.00
Floor Stand for Hand Model, Vertical Extension 30 to 60 inches.....	6.00
Color Screen for Hand Model.....	3.50
Extra Glass Discs for Screen, Green, Blue, Ruby, Amber, Violet.....	1.25

No. 0670

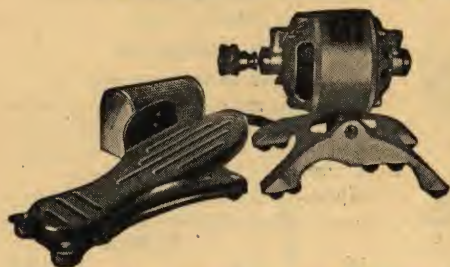
Applicator with Stand, 12-inch Reflector.....	\$30.00
" Without ".....	20.00
Floor Stand Only, with Clamp.....	15.00
Color Screen Complete.....	7.00
" " Discs for No. 0670 Screen, Green, Blue, Ruby, Amber or Violet.....	2.50

Extra Bulbs

115-120 Volt, 200 Watts.....	\$1.50
32-Volt, 128 Watts.....	1.75
220, 230 or 250-Volt, 200 Watts.....	2.00
115-120-Volt, 375 Watts, for No. 0670 Model.....	3.00
220, 230 or 250-Volt, 375 Watts, for No. 0670.....	4.00



Hamilton Beach Home Motors



Attach to any sewing machine, old or new. Machine does not have to be altered or dismantled. Set pulley of motor underneath hand-wheel and slight pressure of foot on

speed-control starts motor; a stronger pressure increases speed. Price, Motor with Speed Control, Cord and Plug, ea. **\$18.50**

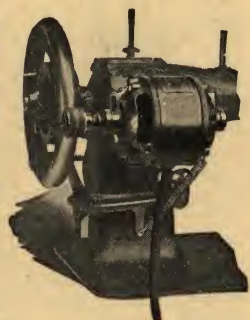
" Fan Attachment....."	3.00
" Grinder and Polisher Attachment....."	1.50
" Cake Mixer Attachment....."	5.00

Hamilton Beach Bracket Type Sewing Motors

This type of motor is designed to be attached permanently to the sewing machine. Special brackets are provided which fasten the motor to the arm of the machine back of the head. A swivel attachment permits the motor to be swung out of the way when the machine is closed.

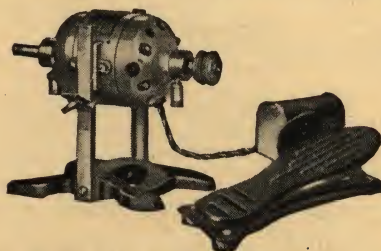
This motor can be furnished to fit any of the standard makes of sewing machines. When ordering, the manufacturer's name and the model of machine must be specified.

Furnished with speed control, cord and plug.



Price, Bracket Type Motor.....each **\$19.25**

Hamilton Beach Tailor Type Sewing Motors



The tailor type motor fits and operates practically all types and models of light tailor machines.

Size of Motor.—Diameter, $3\frac{1}{8}$ inches; length, $5\frac{1}{2}$ inches; length of shaft, $7\frac{3}{8}$ inches. Size of pulley, 6 inches. Weight, $4\frac{3}{4}$ pounds.

Motor wound for 115 volts, A. C. or D. C., 25 to 60 cycles. Watts, 41 lowest speed, 70 at highest.

Shaft extension outside of motor is equipped with friction attachment for winding bobbins.

Furnished with speed control, cord and plug.

Price, Tailor Type Motor.....each **\$28.50**

No. 2 Hamilton Beach Improved Drink Mixers

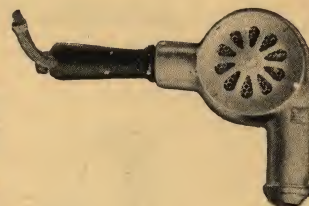
Quick detachable motor; only two screws to take out; no wires to disconnect. Enclosed lower motor case; splash-proof. Lower bearing shield prevents syrup accumulations. Crystal white porcelain base on fine metal body. Stainless, easily cleaned. Oversize rubber feet. Self-locking dowels hold column from turning or loosening. To operate, push knob in center of telescoping upright. Full automatic switch. All telescoping parts have rubber shock absorbers. Spring metal glass holder, self-adjusting. Finish, full triple nickel. Extra heavy silver plate at slight additional cost. Weight, packed, $14\frac{1}{2}$ lbs. Price, No. 2.....each **\$18.75**



No. 2 Hamilton Beach Hair Dryers

115 Volts, A. C. or D. C.

Designed specially for home use. Made of solid aluminum. Gives hot or cold blast. Fan is fully enclosed. Weight packed, five pounds. Price, No. 2.....each **\$22.50**



No. 3 Hamilton Beach Junior Hair Dryers

115 Volts, A. C. or D. C.

The No. 3 Junior is light, simple and powerful. Can be held in the hand or set in the stand at any desired angle, leaving hands free for scalp massage while hair is drying. Adjustment is instantaneous and automatic. Stays where it is put and stand is quickly detachable. Furnished in nickel finish, or boudoir old ivory.

The fan is fully enclosed, eliminating any chance of catching the hair. Dries the heaviest head of hair in a few minutes.

Gives hot or cold blast by simply turning the switch.

Price, No. 3 Junior Stand-Type.....each **\$18.50**

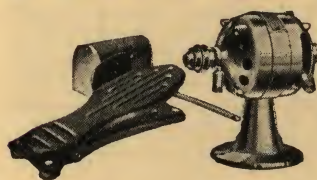


Hamilton Beach Shoe Dryers

With this device, one shoe can be dried while the other is being cleaned. Simple to operate, light in construction, fool-proof. Universal bracket fits to any stand. Weight packed, $5\frac{1}{2}$ lbs. Price.....each **\$24.50**



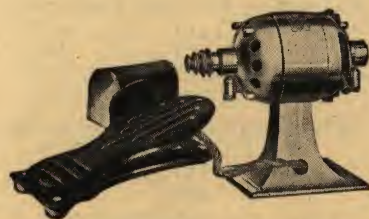
No. 2 Hamilton Beach Jewelers' Lathe Motors



Universal motor. Speed controlled by foot pedal self-starter. To reverse the direction of the motor, change the position of the carbon brushes.

Price, No. 2 Model, $\frac{1}{16}$ H.P.....each **\$20.00**

No. 3 Hamilton Beach Jewelers' Lathe Motors

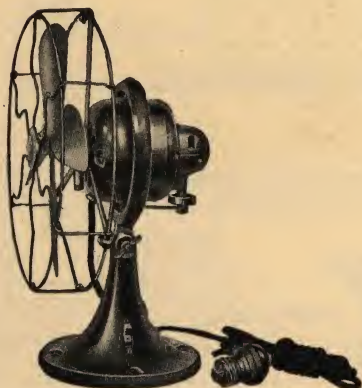


Equipped with universal motor; speed regulated by foot pedal self-starter. Reversed by changing position of carbon brushes.

Price, No. 3 Model, $\frac{1}{12}$ H.P.....each **\$27.50**



G-E Whiz Electric Fans



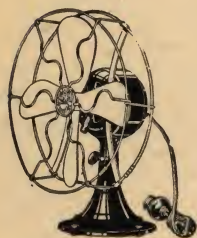
The G-E Whiz Oscillating Fan is low in price but efficient in function and is ready to take its place in homes, in offices, and wherever else the oppression of humid days and stagnant air demands relief from discomfort and lowered vitality. Its operation costs less than one-half cent an hour.

The nine-inch, polished brass blades of this fan are driven by a trouble-proof motor built to give years of perfect service. It is fully equipped with safety guard, G-E Tumbler Switch control, attaching cord and plug, and adjustment device.

The G-E Whiz Non-oscillating Fan is equally durable and efficient and is equipped with the same features with the single exception of the oscillating mechanism.

G-E Whiz Desk Fans

Alternating or Direct Current



Four blades, 9-inch diameter. Designed to fill the demand for a small efficient fan of low price. Height, 12 inches over all; weight, seven pounds. Single speed.

Finished in green enamel, except blades which are polished brass.

Equipped with felt base, off and on toggle switch in base, cord and plug.

Motor is readily adjustable for either desk or bracket use.

Prices include 6-foot cord and plug.

Alternating Current, Non-oscillating

Cat. No.	Cycles	Volts	Speed R. P. M.	Price Each
*257594	25	110	1800	\$12.50
*257595	40	120	1700	12.50
236327	60	110	1500	10.00
257598	60	220	1500	14.00

Alternating Current, Oscillating

Cat. No.	Cycles	Volts	Speed R. P. M.	Price Each
*257606	25	110	1800	\$17.50
*257607	40	120	1700	17.50
257599	60	110	1500	15.00
257610	60	220	1500	18.50

Direct Current, Non-oscillating

Cat. No.	Cycles	Volts	Speed R. P. M.	Price Each
257600	..	32	1600	\$15.00
257601	..	110	1600	15.00
257602	..	220	1600	16.00

Direct Current, Oscillating

Cat. No.	Cycles	Volts	Speed R. P. M.	Price Each
257603	..	32	1690	\$19.00
257604	..	110	1600	19.00
257605	..	220	1600	20.00

*Furnished in the series commutator type.

G-E Alternating Current Desk Fans

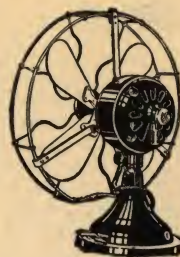
Non-oscillating

12 and 16-inch, 4-blade

Finished in green enamel with polished brass blades. Equipped with 4-point regulating switch, which provides three running speeds.

Adjustable for desk or bracket use.

Prices include 8-foot cord and plug.



12-inch

Cat. No.	Cycles	Volts	Price Each
*34267	25	110	\$24.50
33594	40	120	24.00
34017	60	110	23.00
34018	60	220	24.50

16-inch

Cat. No.	Cycles	Volts	Price Each
*58294	25	110	\$28.50
*58295	40	120	28.00
34021	60	110	27.00
34022	60	220	28.50

*Furnished in the series commutator type.

G-E Alternating Current Electric Fans

Oscillating

12 and 16-inch, 4-blade

Finished in green enamel with polished brass blades. Equipped with 4-point regulating switch, which provides three running speeds.

Adjustable for desk or bracket use.

Prices include 8-foot cord and plug.



12-inch

Cat. No.	Cycle	Volts	Price Each
*75433	25	110	\$31.50
*75431	40	120	31.00
75423	60	110	30.00
75424	60	220	31.50

16-inch

Cat. No.	Cycle	Volts	Price Each
*75434	25	110	\$36.50
*75432	40	120	36.00
75425	60	110	35.00
75426	60	220	36.50

*Furnished in the series commutator type.

G-E Direct Current Electric Fans

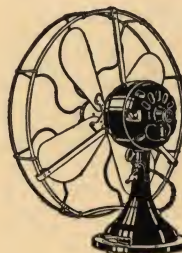
Non-oscillating

12 and 16-inch, 4-blade

Finished in green enamel with polished brass blades. Equipped with 4-point switch, which provides three running speeds.

Adjustable for desk or bracket use.

Prices include 8-foot cord and plug.



12-inch

Cat. No.	Volts	Price Each
34003	110	\$23.00
34004	220	24.50
218168	32	23.00

16-inch

Cat. No.	Volts	Price Each
34005	110	\$27.00
34006	220	28.50
218169	32	27.00

G-E Direct Current Electric Fans Oscillating

12 and 16-inch, 4-blade

Finished in green enamel with polished brass blades. Equipped with 4-point switch, which provides three running speeds.

Adjustable for desk or bracket use.

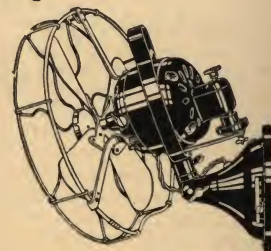
Prices include 8-foot cord and plug.

12-inch

Cat. No.	Volts	Price Each
60559	110	\$30.00
60560	220	31.50
218170	32	30.00

16-inch

Cat. No.	Volts	Price Each
60561	110	\$35.00
60562	220	36.50
218171	32	35.00





G-E Alternating Current Ceiling Fans

52-inch, 4-blade, 3-speed



Finished in green enamel; blades oak. Equipped with 4-point regulating switch which provides three running speeds. Stem and casing not included, but insulated hanger, hook and canopy will be supplied. $\frac{3}{4}$ -inch green enameled iron pipes threaded at both ends to fit motor and hanger, will be furnished at additional charge.

These fans are wired for two or four lights but no sockets or other electrolier fittings are included in prices. If desired, electrolier arms with terminals permitting the attachment of sockets, will be furnished at an additional charge.

Cat. No.	Cycles	Volts	SPEED R. P. M			Price Each
			High	Medium	Low	
62364	25	110	200	150	115	\$55.00
62365	40	120	225	175	125	55.00
44986	60	110	225	175	125	52.00
44987	60	220	225	175	125	54.00

G-E Direct Current Ceiling Fans

52-inch, 4-blade, 3-speed



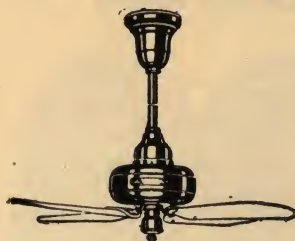
Ceiling fans are recommended for use in places where it is desired to move a very large volume of air at a moderate velocity. They are suitable for large offices, stores, restaurants and theaters.

Finished in green enamel; blades oak. Equipped with 4-point regulating switch which provides three running speeds. Stem and casing not included, but insulated hanger, hook and canopy will be supplied. $\frac{3}{4}$ -inch green enameled iron pipes threaded at both ends to fit motor and hanger, will be furnished at additional charge.

Cat. No.	Volts	SPEEDS, R. P. M			Price Each
		High	Medium	Low	
34007	110	235	175	125	\$52.00
34008	220	235	175	125	54.00
218178	32	235	175	125	52.00

G-E Alternating Current Ceiling Fans

32-inch, 4-blade
2-speed



Finished in green enamel; blades aluminum. Equipped with 3-point regulating switch which provides two running speeds. Stem and casing not furnished, but insulated hanger hook and canopy will be supplied.

Cat. No.	Cycles	Volts	Speed R. P. M.	Price Each
146230	25	110	300-200	\$41.50
146231	40	120	350-250	41.00
146236	60	110	350-250	40.00
146237	60	220	350-250	41.50

G-E Direct Current Ceiling Fans

32-inch, 4-blade, Single-speed

Finished in green enamel, blades oak. No regulating switch.

Stem and casing not furnished but insulated hanger, hook and canopy will be supplied plain.

One-half-inch green enameled iron pipe threaded at both ends, to fit motor and hanger will be furnished at an additional charge.



Cat. No.	Size Inches	Voltage	Speed R. P. M.	Price Each
218176	32	32	400	\$40.00
146210	32	110	400	40.00
146211	32	220	400	41.50

G-E Ventilating Fans

Alternating and Direct Current, 6-blade



Finished in green enamel; blades and trimmings polished brass.

Prices include motor complete with six-blade fan and tripod but do not include cord or attachment plug.

Not fitted with speed regulating switch, but when speed regulation is desired, speed controllers can be supplied at an additional charge.

Alternating Current, 12 and 16-inch

Cat. No.	Size Inches	Cycles	Volts	Speed R. P. M.	Price Each
*35307	12	25	110	1700	\$30.50
*35308	12	40	120	1700	30.00
34025	12	60	110	1600	29.00
34026	12	60	220	1600	30.50
*58298	16	25	110	1500	33.50
*58299	16	40	120	1600	33.00
34029	16	60	110	1600	32.00
34030	16	60	220	1600	33.50

Direct Current, 12 and 16-inch

Cat. No.	Size Inches	Volts	Speed R. P. M.	Price Each
34009	12	110	1600	\$29.00
34010	12	220	1600	30.50
218172	12	32	1600	29.00
34011	16	110	1550	32.00
34012	16	220	1550	33.50
218173	16	32	1550	32.00

*Furnished in the series commutator type.



Ventura Type Disc Ventilating Fans with General Electric Motors



The Ventura Ventilating Fan is the latest development in disc fan design. The blades are formed on screw propeller lines, slightly overlapping, and are attached to a large central supporting disc, which prevents back flow through the center of the wheel. These features combine to produce a fan giving maximum air delivery with minimum power consumption.

These fans are intended for installation in outside walls, windows, or transoms. They should not be used in connection with duct systems, as their design is not suitable for this purpose.

Direct Current

Fan No.	Wheel Diam. Inches	Approx. Speed	Cap. Cubic Feet per Min.	Watts Input	SHIPPING WEIGHT, LBS.		*PRICE, EACH		
					110 or 120	220	110 or 120	220	550
					Volts	Volts	Volts	Volts	Volts
3	16	1070	1500	100	60	...	\$71.00	.....	.....
3 1/2	18 3/4	1000	2200	170	80	...	88.00	.....	.....
4	21 1/4	900	3090	175	125	125	159.00	\$175.00	.....
5	26 3/4	750	5000	258	250	300	174.00	192.00	.....
6	32	625	6900	308	300	400	242.00	267.00	.....
7	37 1/4	550	9800	500	400	575	297.00	327.00	.....
8	42 3/4	475	12650	750	575	750	405.00	446.00	.....
9	48	440	16300	970	700	700	507.00	557.00	.....

Alternating Current

60 Cycles—Single-phase—110 or 220 Volts

Fan No.	Wheel Diam. Inches	Approx. Speed	Cap. Cubic Feet per Min.	Watts Input	Ship. Wt., Lbs.	PRICE, EACH		Add for Regulator
						110 or 120	220	
						Volts	Volts	
3	16	1140	1580	150	90	\$79.00	.....	.....
3 1/2	18 3/4	860	1860	200	130	137.00	.....	.....
4	21 1/4	900	3090	192	190	170.00	\$16.00	.....
5	26 3/4	750	5000	304	285	225.00	16.00	.....
6	32	600	6790	400	375	324.00	31.00	.....
7	37 1/4	550	9800	570	455	429.00	42.00	.....
8	42 3/4	475	12650	750	585	518.00	44.00	.....
9	48	445	16850	1080	750	636.00	48.00	.....

60 Cycles—Two or Three-phase 110, 220, 440 or 550 Volts

Fan No.	Wheel Diam. Inches	Approx. Speed	Cap. Cubic Feet per Min.	Watts Input	Ship. Wt., Lbs.	Price Each
6	32	540	6100	303	390	\$275.00
7	37 1/4	560	9900	465	460	338.00
8	42 3/4	430	11400	630	620	414.00
9	48	430	16100	800	850	500.00

Always specify voltage, phase and cycles when ordering.

Motors used are fully enclosed.

Do not use above outfits for installation with duct system.

Prices cover fans with horizontal shaft motors.

Cannot furnish for vertical operation.

Prices, 25 or 40 cycles on request.

*Price on direct current outfits includes a speed regulator to give approximately 50 per cent speed reduction. This regulator is furnished with each direct current unit.

Regulators can be furnished for single-phase alternating current outfits size No. 4 and larger to give approximately 30 per cent speed reduction. See regulator price above.

Reversible Ventura Fans

With G-E Motors

For Household Service and Small Offices



Reversible Fan



Supporting Frame Extended

Either exhausts the smoke, steam, odors, and stuffy air, or, when the switch cord is pulled, reverses and brings in the refreshing outdoor atmosphere.

Can be operated on single-phase only.

Each fan is regularly equipped with reversing switch and ten feet of cord for attaching to ordinary lamp socket or wall receptacle.

When fans are to be operated on 25, 30, 40 or 50-cycle alternating current special resistance plugs are furnished making a standard 60 cycle outfit suitable. List price of plugs \$5.00 each. Specify cycles when ordering plugs. One plug required for a fan.

The necessary attaching screws, bolts and window handles are included with the supporting frame.

For list price of \$1.00, there will be supplied extra set of strips and screws, permitting fan with frame to be moved from one window to another without removing strips and screws already in place.

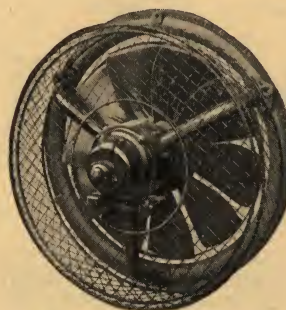
Supporting frames are furnished in two sizes. One size is adjustable to fit windows 24 inches to 34 inches wide and the other size is adjustable to fit windows 32 to 50 inches wide. Specify on order which size is desired.

This fan may be used either with or without the adjustable supporting frame.

The Ventura Reversible Fan will handle 600 cubic feet of air per minute.

CAT. NO.				Wt., Lbs.		PRICE, EACH	
D.C.		A.C.		DIMEN., IN.			
110-v.	220-v.	110-v.	220-v.	Diam.	Opening	Fan and Fan Only	Frame Only
1111	1112	1211	1212	12½	15	40	\$72.00
							\$10.00

Safety Guards for Ventura Fans



Safety guards should be used on all installations where the fans are within reach of occupants of the room or are in positions where foreign materials might be thrust into the running fan wheel.

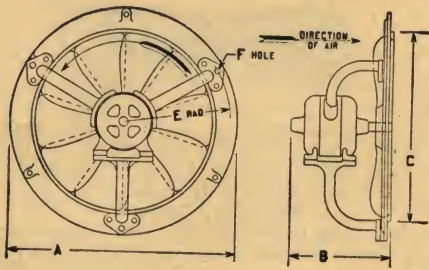
Ventura Safety Guards are constructed from heavy screen formed around a strong supporting frame. They do not reduce the volume of air handled by the fan, and are quickly and easily installed.

Specify make of motor on fan when ordering guards.

Cat. No.	For Fan No.	Wt., Lbs. Each	Price Each
7824	2 1/2	5	\$18.00
7825	3	7	21.00
7826	3 1/2	10	21.00
7827	4	14	24.00
7828	5	18	27.00
7829	6	25	30.00
7830	7	35	33.00
7831	8	45	38.00
7832	9	60	40.00



Installation Dimensions for Ventura Disc Ventilating Fans



Fan Size	DIMENSIONS, INCHES				
	A	*B	C	E	*F
3	22 $\frac{5}{8}$	9 $\frac{1}{8}$	17 $\frac{1}{4}$	10 $\frac{3}{16}$	11 $\frac{1}{16}$
3 $\frac{1}{2}$	25 $\frac{3}{8}$	9 $\frac{7}{8}$	20	11 $\frac{3}{8}$	12 $\frac{1}{8}$
4	28	16 $\frac{3}{4}$	22 $\frac{5}{8}$	13 $\frac{3}{8}$	13 $\frac{1}{8}$
5	34 $\frac{1}{4}$	21 $\frac{3}{8}$	28 $\frac{3}{8}$	16 $\frac{7}{8}$	15 $\frac{1}{8}$
6	40 $\frac{1}{8}$	21 $\frac{3}{8}$	34	19 $\frac{1}{4}$	17 $\frac{1}{8}$
7	45 $\frac{3}{8}$	23 $\frac{1}{4}$	39	21 $\frac{7}{8}$	19 $\frac{1}{8}$
8	51	28 $\frac{1}{8}$	44 $\frac{5}{8}$	24 $\frac{3}{4}$	21 $\frac{1}{8}$
9	56 $\frac{3}{4}$	29 $\frac{1}{8}$	50	27 $\frac{1}{8}$	23 $\frac{1}{8}$

*Approximate dimensions only.

Automatic Shutters for Ventura Fans



Shutter Open

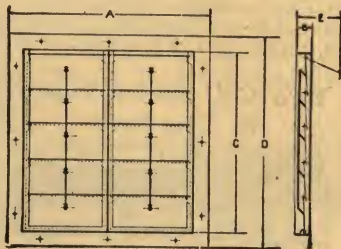


Shutter Closed

Automatic shutters are used in connection with disc type fans as a protection to fan when not running, and to keep out the wind, rain, snow and cold.

Shutters are constructed of rolled aluminum leaves attached to steel rods supported in a steel frame.

The force of the air when fan is running holds the shutter open. When fan is shut off, shutter closes automatically by gravity. It is advisable to use an automatic shutter whenever the fan is installed in an outside wall. They automatically close the opening outside the fan at night or at any other time when the fan is not in use.



Cat. No.	For Fan No.	DIMENSIONS, INCHES					Wt., Lbs. Each	Price Each
		A	B	C	D	E		
SA4444	2 $\frac{1}{8}$	17	21 $\frac{1}{8}$	14	17	5 $\frac{1}{4}$	6	\$12.00
SA4445	3	20	21 $\frac{1}{8}$	17	20	5 $\frac{1}{4}$	15	17.00
SA4446	3 $\frac{1}{2}$	23	21 $\frac{1}{8}$	20	23	5 $\frac{1}{8}$	30	22.00
SA4447	4	26	21 $\frac{1}{8}$	23	26	5 $\frac{1}{2}$	60	27.00
SA4448	5	31	21 $\frac{1}{8}$	28	31	5 $\frac{1}{4}$	78	31.00
SA4449	6	37	21 $\frac{1}{8}$	34	37	5 $\frac{1}{4}$	88	39.00
SA4450	7	42	21 $\frac{1}{8}$	39	42	5 $\frac{1}{2}$	100	46.00
SA4451	8	47	21 $\frac{1}{8}$	44	47	5 $\frac{1}{4}$	120	53.00
SA4452	9	53	21 $\frac{1}{8}$	50	53	5 $\frac{1}{2}$	130	72.00

Sirocco Utility Blowers With G-E Motors



Always specify Catalogue number, voltage, phase and cycles in inquiries and on orders.

No. 00 has a three-point speed regulator located in the fan base.

No switches, enclosing boxes, fuse boxes, or other electrical fittings are included in the price unless so specified.

Nos. 00, 0, 1 and 1 $\frac{1}{4}$ are equipped with lamp cord and plug for attachment to ordinary lamp socket.

The capacities given for CFM show the volume of air handled against the static pressures noted. As the length of the piping system or the velocity of the air in the pipe is increased, the pressure required increases and the volume of air handled is reduced.

Direct Current

Do not require and are not equipped with starter.

Motors for 32-volt direct current can be supplied. For prices add 20% to the prices given for 110 or 220 volts.

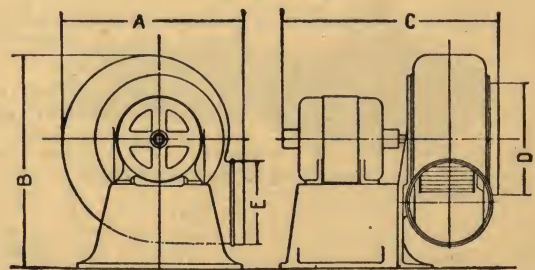
Alternating Current

Single-phase unit No. 00 is equipped with series wound motor.

		CATALOGUE NOS.							
		D.C.		A.C. 60-cycle S. Ph.		H.P. Motor		Speed R.P.M.	
Set No.		110-v.	220-v.	110-v.	220-v.				
00	8011	8012	8111	8112	1 $\frac{1}{2}$	2200	15	\$66.00	
0	8013	8014	8113	8114	1 $\frac{1}{2}$	1700	45	77.00	
1	8015	8016	8115	8116	1 $\frac{1}{8}$	1120	75	88.00	
1	8025	8026	8125	8126	1 $\frac{1}{8}$	1750	95	110.00	
1 $\frac{1}{4}$	8019	8020	8119	8120	1 $\frac{1}{8}$	1120	110	122.00	
1 $\frac{1}{4}$	8027	8028	8127	8128	1 $\frac{1}{8}$	1750	130	178.00	
1 $\frac{1}{2}$	8021	8022	8121	8122	1 $\frac{1}{10}$	850	150	154.00	
1 $\frac{1}{2}$	8023	8024	8123	8124	1 $\frac{1}{6}$	1120	160	154.00	
1 $\frac{1}{2}$	8029	8030	8129	8130	3 $\frac{1}{4}$	1750	195	220.00	

		CUBIC FEET OF AIR PER MINUTE			
		With Free Delivery	1 $\frac{1}{4}$ -inch	WITH STATIC PRESSURE	3 $\frac{1}{4}$ -inch
Set No.				1 $\frac{1}{2}$ -inch	
00	55	40	....	....	....
0	150	115	....	....	....
1	225	160	....	....	....
1	340	320	270	....	176
1 $\frac{1}{4}$	450	380	210	....	....
1 $\frac{1}{4}$	715	645	602	....	520
1 $\frac{1}{2}$	600	460	....	....	....
1 $\frac{1}{2}$	800	700	560	....	....
1 $\frac{1}{2}$	1210	1130	1080	....	1000

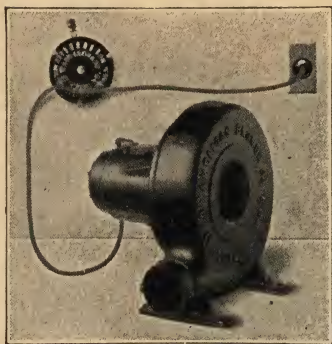
Dimensions



		DIAM., INCHES			DIMEN., INCHES				
		Fan Wheel	Fan Inlet	Fan Outlet	A	B	C	D	E
Set No.									
00	3	3 $\frac{1}{8}$	2 $\frac{1}{2}$	5 $\frac{23}{32}$	6 $\frac{3}{8}$	6 $\frac{1}{8}$	3 $\frac{1}{8}$	2 $\frac{1}{2}$	
0	4 $\frac{1}{2}$	4 $\frac{5}{8}$	3 $\frac{3}{8}$	8 $\frac{11}{32}$	9 $\frac{1}{8}$	10 $\frac{3}{16}$	4 $\frac{9}{16}$	3 $\frac{1}{2}$	
1	6	6 $\frac{1}{2}$	4 $\frac{7}{8}$	11 $\frac{1}{8}$	12 $\frac{3}{8}$	13	6 $\frac{1}{2}$	4 $\frac{1}{8}$	
1 $\frac{1}{4}$	7 $\frac{1}{2}$	7 $\frac{7}{8}$	6	13 $\frac{3}{4}$	15 $\frac{3}{8}$	13 $\frac{3}{8}$	7 $\frac{7}{8}$	6	
1 $\frac{1}{2}$	9	9 $\frac{1}{2}$	7 $\frac{1}{8}$	15 $\frac{1}{2}$	18 $\frac{3}{8}$	18 $\frac{1}{8}$	9 $\frac{1}{2}$	7 $\frac{1}{8}$	



Type P Blowers with Universal Motors



Each unit is supplied with ten feet of heavy lamp cord, plug for attaching to ordinary lamp socket, and speed regulator.

This unit is equipped with Universal motor. Motor is suitable for operation on either alternating or direct current and can be supplied for either 110 or 220-volt current.

This unit has sufficient capacity to furnish blast for one medium or two light forges.

Light forges are those used for heating rivets, horseshoes, small forgings and stock up to 1-inch square.

Medium forges are those used for heating stock up to 2-inch square, angles up to 3x3-inch, and metal of approximately the same size.

Static pressure is here measured per square inch.

CAT. NOS.		Size Fan No.	MOTOR MAX. WATTS INPUTS			Approx. R.P.M.	Wt. Lbs. Each	Price Each
110-v.	220-v.		H.P.	D.C.	A.C.			
20001	20002	A	1/10	135	115	3400	60	\$75.00
CAT. NOS.		DIMEN., INCHES			CUBIC FEET AIR, PER MIN.			
110-v.	220-v.	Lth.	Wth.	Ht.	Out-let	In-let	SP	SP
20001	20002	14	14	14	3	3 1/2	180	170 160 140



Ventura Man-cooling Fans

The Ventura Man-cooling Fan pays big dividends in increased production by the workers in plants where oppressive, sweltering atmosphere would otherwise retard their efforts.

It is designed to supply a refreshing breeze in places not practical for other types of cooling apparatus.

Fan is compact and entirely self-contained.

Safety guard is furnished with each outfit.

An enclosed switch is furnished with all alternating current outfits.

An enclosed switch and starter are furnished with all direct current outfits.

Direct Current—120 and 220 Volts

CAT. NOS.		Size Fan No.	Diam. Wheel In.	MOTOR			Wt. Lbs. Each	Price Each
110-v.	220-v.			H. P.	R. P. M.			
10001	10002	4	21 1/4	1	1725	350		\$398.00
10005	10006	7	37 1/4	4	1120	730		768.00

Polyphase Alternating Current—110, 220, 440 and 550 Volts—60 Cycles

CAT. NOS.		Size Fan No.	Diam. Wheel In.	MOTOR	Wt. Lbs. Each	Price Each
3-PHASE	2-PHASE					
220-v.	440-v.	220-v.	440-v.	H. P.	R. P. M.	
11001	11002	11011	11012	4	21 1/4	1 1725 395 \$378.00
11005	11006	11015	11016	7	37 1/4	4 1120 780 582.00

Yale Two Cell Baby Regular Flashlights

No. 2002, Nickel



A small, convenient flashlight with triple nickel-plated finish. All fittings harmoniously designed and produced with true mechanical accuracy. Size, 1 3/8 x 5 5/8 inches.

Price, No. 2002, Case and Bulb Only each 1.45
 " " 11, Renewal Mazda Lamp, 2.3 Volts. " .15
 " " 101, Mono-Cells, 2 Required " .15

No. 2001, Fibre

Same as No. 2002 but with fibre case. Specially treated and moisture-proof. Patented improved contact strips. Size, 1 3/8 x 5 5/8 inches.

Price, No. 2001, Case and Bulb Only each 1.20
 " " 11, Renewal Mazda Lamp, 2.3 Volts. " .15
 " " 101, Mono-Cells, 2 Required " .15

Yale Two Cell Baby Miner Flashlights



Fibre Case

No. 2004, Nickel

Small and handy with a comparatively large light. Polished triple nickel-plated finish. Size, 1 3/4 x 6 inches.

Price, No. 2004, Case and Bulb Only each 1.70
 " " 11, Renewal Mazda Lamp, 2.3 Volts. " .15
 " " 101, Mono-Cells, 2 Required " .15

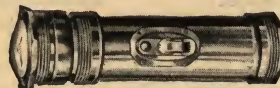
No. 2003, Fibre

Same as No. 2004 but with specially treated fibre case. Moisture-proof and durable. Patented improved contact strips. Size, 1 3/4 x 6 inches.

Price, No. 2003, Case and Bulb Only each 1.45
 " " 11, Renewal Mazda Lamp, 2.3 Volts. " .15
 " " 101, Mono-Cells, 2 Required " .15

Yale Two Cell Regular Flashlights

No. 2102, Nickel



A medium-sized flashlight with a highly polished triple nickel-plated finish. Size, 1 7/8 x 6 3/4 inches.

Price, No. 2102, Case and Bulb Only each \$1.75
 " " 16, Renewal Mazda Lamp, 2.5 Volts. " .15
 " " 102, Mono-Cells, 2 Required " .17

No. 2101, Fibre

Same as No. 2102 but with a well-seasoned fibre case. Moisture-proof and reliable. Patented improved contact strips. Size, 1 7/8 x 6 3/4 inches.

Price, No. 2101, Case and Bulb Only each \$1.50
 " " 16, Renewal Mazda Lamp, 2.5 Volts. " .15
 " " 102, Mono-Cells, 2 Required " .17

Yale Two Cell Miner Flashlights

No. 2104, Nickel



The Yale Miner Flashlight is made of extra heavy brass with triple nickel-plated finish. Size, 6 7/8 x 2 1/2 inches.

Price, No. 2104, Case and Bulb Only each \$2.15
 " " 16, Renewal Mazda Lamp, 2.5 Volts. " .15
 " " 102, Mono-Cells, 3 Required " .17

No. 2103, Fibre

Same as No. 2104, but with fibre case. Patented concealed contact strips. Size, 6 7/8 x 2 1/2 inches.

Price, No. 2103, Case and Bulb Only each \$1.90
 " " 16, Renewal Mazda Lamp, 2.5 Volts. " .15
 " " 102, Mono-Cells, 3 Required " .17

Yale Tubular Batteries



Cat. No.	Description	Size Inches	Unit Pkg.	Std. Pkg.	Price Each
110	2-Cell Baby	3 3/4 x 1	10	100	\$.30
111	2 " Regular	4 3/4 x 1 1/4	10	100	.35
112	3 " "	7 x 1 1/4	10	100	.50
113	2 " Penlite	3 7/8 x 5/8	10	100	.25

Yale Vest Pocket Batteries



No. 116

Cat. No.	Description	Size Inches	Unit Pkg.	Std. Pkg.	Price Each
114	2-Cell Midget Flat	1 $\frac{1}{2}$ x1 $\frac{1}{8}$ x $\frac{1}{2}$	..	..	.30
115	2 " Vest Pocket	2 $\frac{1}{4}$ x1 $\frac{1}{8}$ x $\frac{3}{8}$	10	100	.30
116	3 " "	2 $\frac{1}{4}$ x1 $\frac{1}{8}$ x $\frac{3}{8}$	10	100	.40
117	3 " Coat "	2 $\frac{1}{2}$ x2 $\frac{1}{8}$ x $\frac{3}{4}$	10	100	.40

Yale Box Type Batteries

Cat. No.	Description	Size Inches	Price Each
118	3-Cell Box Type.....	3 x 3 $\frac{1}{2}$ x 1 $\frac{3}{8}$	\$.65
119	5 " " "	3 x 3 $\frac{3}{8}$	1.10
120	2 " Flat "	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 1 $\frac{3}{16}$	.30
121	3 " Cluster.....	3 x 3 x 2 $\frac{1}{2}$	.65

Yale Mono-Cells



The Yale Mono-Cell is an improved flashlight battery. The patented method of sealing on the wrapper makes it impossible to short-circuit Yale Mono-Cells.

Only superior workmanship and materials are employed in the manufacture of this battery.

The Yale Mono-Cell makes it easier for the dealer to have a fresh stock of batteries on hand at all times.

**Price, No. 102, Standard Size to Fit All Regular
Tubular Flashlights.....each \$.17**

Tubular Flashlights.....each \$1.17

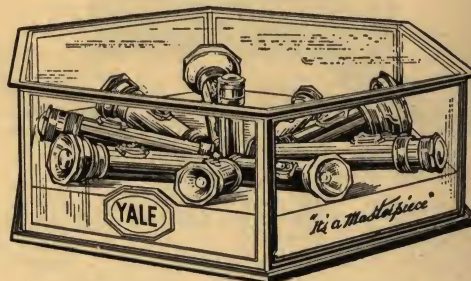
Price, No. 101, Small Size, to Fit All Baby Size

Tubular Flashlights.....each .15

Comparative Table for Flashlight Batteries

Style	Nos.		
	Franco	Yale	Ever Ready
Mono-cell, Baby	1053	101	935
“ Regular	1051	102	950
2-cell Baby	1029	110	791
2 “ Regular	1028	111	790
3 “	1027	112	705

Yale Flashlight Display Cases



This display case is an efficient silent salesman. It is a handsome store fixture as well as an effective business builder.

Constructed of metal with beveled plate glass top.

Finished in Yale blue with a rich, soft velvet covering on the base.

The case accommodates an assortment of ten Yale Flashlights. While it is recommended and preferable to display the nickel cases, because of their brilliance, it is possible to alternate the nickel with fibre or display fibre flashlights exclusively.

This Yale Display Case is obtainable by placing an initial order for \$50.00 in Yale Flashlights, either nickel or fibre or both.

Price, Case with \$50.00 Flashlight Order.....each **\$7.50**

No. 1923 Eveready Flashlight Lamp Assortments



This assortment consists of 100 Eveready Mazda Flashlight Lamps packed in an attractive colored cardboard display case. Will equip most flashlights in popular use. Included in the assortment are 20 of the concentrated filament lamps for the focusing types of flashlights.

No.	No. of Lamps	Voltage	Flashlight in which Used	Price Each
1198	30	2.5	<div> <div>2-cell Tubular</div> <div>2 " Miner</div> <div>2 " Searchlight</div> </div>	\$.15
1197	20	2.3	<div> <div>2 " Baby Tubular</div> <div>2 " " Miner</div> </div>	.15
1193	30	3.8	<div> <div>3 " Tubular</div> <div>3 " Miner</div> <div>3 " Searchlight</div> </div>	.15
1162	20	3.8	3 " Focusing	.20

1162	20	3.8	3	Focusing	.20	
Price	No.	1923	Assortment of 100 Lamps.....each			\$16.00



1923 "National Electrical Code"

Regulations of the National Board of Fire Underwriters

For Electric Wiring and Apparatus as Recommended
by the National Fire Protection Association

Edition of 1923

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ARTICLE 1. DEFINITIONS.

Accessible: Not permanently closed in by the structure or finish of the building. (See readily accessible.)

Adjustable Speed Motor: One in which the speed can be varied gradually over a considerable range, but when once adjusted remains practically unaffected by the load, such as shunt motors designed for a variation of field strength.

Approved: Acceptable to the Inspection Department having jurisdiction. In order to avoid the necessity for repetition of examinations by different examiners, frequently with inadequate facilities for such work, and to avoid the confusion which would result from conflicting reports as to the suitability of devices examined for a given purpose, it is necessary that such examinations should be made under standard conditions, and the record made generally available through promulgation by organizations properly equipped and qualified for experimental testing, inspections of the run of goods at factories, and service-value determinations, through field inspections.

Automatic Door: One which closes automatically by means of a device operated by heat.

Branch Circuit: That portion of the wiring system extending beyond the final set of fuses or circuit breakers protecting it, and at points on which current is taken to supply fixtures, lamps, heaters, motors and current consuming devices generally.

Building: A structure which stands alone or which is cut off from adjoining structures by unperforated fire walls.

Cabinet: An enclosure designed either for surface or flush mounting, and provided with a frame, mat or trim, in which swinging doors are hung. (See cutout box.)

Cable: A stranded conductor (single-conductor cable) or a combination of conductors insulated from one another (multiple-conducted cable).

Concealed: Rendered permanently inaccessible by the structure or finish of the building.

Conductor: A wire or cable suitable for carrying an electric current.

Cutout Box: An enclosure designed for surface mounting and having swinging doors or covers secured directly to and telescoping with the walls of the box proper. (See cabinet.)

Disconnecting Switch: Disconnecter: A switch which is intended to open a circuit only after the load has been thrown off by some other means.

Dustproof: So constructed or protected that an accumulation of dust will not interfere with its successful operation.

Dust-tight: So constructed that dust will not enter the enclosing case.

Enclosed: Surrounded by a case which will prevent accidental contact of a person with live parts.

Factory Yard: A plot containing an assemblage of buildings served by an isolated plant, or by a sub-station, or by a master service, and permitting access from building to building within the yard.

Guarded: Covered, shielded, fenced, enclosed or otherwise protected, by means of suitable covers or casings, barriers, walls or screens, mats or platforms, to remove the liability of dangerous contact or approach by persons or objects to a point of danger.

Isolated: Not readily accessible to persons unless special means of access are used.

Isolated Plant: A private electrical installation deriving energy from its own generator driven by a prime mover.

Outlet: A point on the wiring system at which current is taken to supply fixtures, lamps, heaters, motors and current consuming devices generally.

Panelboard: A panel containing busses and fuses with or without switches for the control of light, heat or power circuits of small individual as well as aggregate capacity and usually placed in or against a wall or partition and accessible only from the front. (See switchboard.)

Qualified Person: One familiar with the construction and operation of the apparatus and the hazards involved.

Readily Accessible: Able to be reached quickly without climbing over or removing obstructions or resorting to chair, box or portable ladder. (See accessible.)

Service: That portion of the supply conductors which extends from the street main to the service switch of the building supplied.

Special Permission: The written consent of the head of the inspection department having jurisdiction.

Switchboard: A large, single panel, frame or assembly of panels, on which are mounted, on the face or back or both, switches, fuses, or other automatic protective devices, busses and usually instruments. Switchboards are generally used in generating stations, sub-stations or isolated plants for the direct control of energy derived from generators or transforming apparatus. (See panelboard.)

Totally Enclosed Motor: A motor which is so completely enclosed by integral or auxiliary covers as to practically prevent the circulation of air through the interior. Such a motor is not necessarily air tight.

Ventilated: Provided with a means to permit circulation of the air sufficiently to remove an excess of heat, fumes or vapors.

Waterproof: So constructed or protected that moisture will not interfere with its successful operation.

Watertight: So constructed that moisture will not enter the enclosing case.

ARTICLE 2. GENERAL.

The following recommendations, as well as other recommendations throughout this code, shall be considered advisory, but not mandatory:

It is recommended that in all electric work conductors, however well insulated, be always treated as bare, to the end that under no conditions, existing or likely to exist, can a ground or short circuit occur, and so that all leakage from conductor to conductor, or between conductor and ground, may be reduced to the minimum.

It is recommended that in all wiring special attention be paid to the mechanical execution of the work. Careful and neat running, connecting, soldering, taping of conductors, and securing and attaching of fittings, are especially conducive to security and efficiency.

It is recommended that in laying out an installation, except for constant-current systems, every reasonable effort be made to secure distribution centers located in easily accessible places, at which points the cutouts and switches controlling the several branch circuits can be grouped for convenience and safety of operation. The load should be divided as evenly as possible among the branches, and all complicated and unnecessary wiring avoided.

It is recommended that wire-ways be used for rendering concealed wiring permanently accessible.

It is recommended that architects when drawing plans and specifications make provision for the channeling and pocketing of buildings for electric light or power wires, and also for telephone, district messenger and other signal system wiring.

201. Gages.

- a. All wire sizes are given in the Brown and Sharpe (American) gage.

202. Voltages.

- a. Low potential shall mean 600 volts or less.
- b. High potential shall mean between 601 volts and 5000 volts.
- c. Extra high potential shall mean above 5000 volts.
- d. In the preceding paragraphs the potential considered is that at which the circuit operates, whether it is supplied by a generator or by a trans former.

e. Throughout this code, unless otherwise specifically stipulated, the requirements shall be considered to be based upon the use of low-potential wiring, devices, apparatus and appliances. High potential and extra-high-potential systems are considered in articles 3 and 50.

203. Wire Terminals, Splice and Joints.

- a. Stranded wires, other than those used in flexible cords, shall be soldered together before being fastened under clamps or binding screws and, whether stranded or solid, when they have a current capacity greater than No. 8, they shall be soldered into lugs for all terminal connections, unless a solderless connector is used.

b. Wires shall be so spliced or joined as to be mechanically and electrically secure without solder. The joints shall then be soldered, unless made with a splicing device, and shall be covered with an insulation equal to that on the wires.

204. Railway Systems.

- a. Lighting and power from railway wires shall not be permitted under any pretense from a system to which are connected trolley wires with a ground return, except in electric railway cars, electric car houses, power houses, passenger and freight stations connected with the operation of electric railways.

205. Approved Material, etc.

- a. This code shall be understood to treat only of approved materials, devices, fittings, appliances, machinery, apparatus and methods.

206. General Plan of Investigations.

- a. Materials, devices, fittings, apparatus and appliances designed for use under this code shall be judged chiefly with reference to the following five considerations which also determine the classification by types, sizes, voltages, current capacities and specific uses:

1. Suitability for installation and use in conformity with the requirements of this code.
2. Mechanical strength and durability, including for appliances designed to enclose and protect other equipment, the adequacy of the protection thus provided.
3. Electrical insulation.
4. Heating effects under normal conditions of use and also under abnormal conditions liable to arise in service.
5. Arcing effects.



b. Bases for the mounting of live parts shall be composed of approved non-combustible, non-absorptive insulating material, and the design shall be such that, considering the material used, the base will withstand the most severe conditions liable to arise in service. Bases with an area of over 25 square inches shall have at least four supporting screws. Holes for supporting screws shall be so located or countersunk that there will be at least $\frac{1}{2}$ inch, measured over the surface, between the screw head or washer and the nearest live metal part, and in all cases, where between parts of opposite polarity, the screw head or washer shall be countersunk. Holes for supporting screws in link fuse cutout bases shall be kept outside the area included by the outside edges of the fuse terminals. Nuts or screw heads on the under side of the base shall be countersunk and sealed with a waterproof compound.

c. Terminal parts by which wire connections are made shall insure thoroughly good connections even under hard usage. For currents above 30 amperes, lugs into which the connecting wires may be soldered, or approved solderless connectors, shall be used. For currents of 30 amperes or less the parts to which wiring connections are made shall securely grip the conductors. Heavy clamps or screws with terminal plates having up-turned lugs, or solderless connectors, may be used.

Lugs or clamps are not required when leads are provided as part of the device.

d. The set screw form of contact shall not be used.

e. The maker's name, trademark or other identification symbol shall be placed on fittings and materials, together with such other markings giving voltage, current, wattage or other appropriate ratings as are prescribed elsewhere in this code.

ARTICLE 3. OUTSIDE WORK; POLE LINES.

301. Line Wires.

a. Line wires shall be so placed that moisture cannot form a cross connection between them, and shall not be in contact with anything but their supports. They shall be not less than one foot apart except when in conduit or multiple-conductor cable or on approved racks or brackets.

b. Line wires shall be at least eight feet from the nearest point of buildings over which they pass, and if attached to roofs the roof structures shall be substantially constructed. Wherever feasible, wires crossing over buildings shall be supported on structures which are independent of the buildings.

302. Joint Lines.

a. Electric light and power wires shall not be placed on the same cross-arm with telegraph, telephone or other signal wires, and when placed on the same pole with such wires the distance between the two inside pins of each cross-arm shall be not less than 24 inches for circuits operating at a potential to ground not exceeding 300 volts, and shall be not less than 30 inches for higher potentials.

b. The grounding of metallic sheaths of cables shall conform to the requirements of article 9 of this code.

303. Trolley Wires.

a. Trolley wires shall be doubly insulated from the ground, wooden poles being considered as one insulation.

b. Trolley wires and feeders shall be provided with switches which will either disconnect them from the power station, or will so sectionalize them that they may be rendered dead in case of fire along the route.

c. Where crossed by other wires, trolley wires shall be suitably guarded. If guard wires are employed, they shall be insulated from ground and rendered electrically discontinuous at intervals not exceeding 300 feet.

304. Constant Potential Pole Lines, Over 5000 Volts.

Overhead lines of this class unless properly arranged may increase the fire loss from the following causes:

Accidental crosses between such lines and low potential lines may allow the high-voltage current to enter buildings over a large section of adjoining country. Moreover, such high-voltage lines, if carried close to buildings, hamper the work of firemen in case of fire in the building. The object of these rules is so to direct this class of construction that no increase in fire hazard will result, while at the same time care has been taken to avoid restrictions which would unreasonably impede progress in electrical development.

It is fully understood that it is impracticable to include in this code rules which will cover in detail all conceivable cases that may arise in construction work of such an extended and varied nature, and it is recommended that the inspection department be freely consulted as to the specific methods to be followed in particular cases, and that the rules of the National Electrical Safety Code, part 2, be followed.

a. Every reasonable precaution shall be taken in arranging routes so as to avoid exposure to contacts with other electric circuits. On existing lines, where there is a liability to contact, the routes shall be changed by mutual agreement between the parties in interest wherever possible.

b. The lines shall not approach other pole lines nearer than a distance equal to the height of the taller pole line, and the extra-high-potential wires shall not be placed on the same poles with other wires, except that signal wires used by the company operating the high-potential system, and which do not enter property other than that owned or occupied by such company, may be carried on the same poles.

c. Where the lines must necessarily be carried nearer to other pole lines than is specified in paragraph b of this section, or where they must necessarily be carried on the same poles with other wires, extra precautions to reduce the liability of a breakdown to a minimum shall be taken, such as the use of wires of ample mechanical strength, widely spaced cross-arms, short spans, double or extra heavy cross-arms, extra heavy pins, insulators, and poles thoroughly supported. In every case ample clearance between such high-potential wires and all other wires and supporting structures shall be provided.

d. Where the extra-high-potential lines cross other lines, the poles supporting the conductors at the higher level shall be of heavy and substantial construction.

e. Where the lines approach to within 25 feet of a building they shall be so placed that their height from ground will equal the height of the cornice of the building. For closer approach, the heights shall conform to the following table:

Distance of wire from building, Feet	Elevation of wire above cornice of building, Feet
25	0
20	2
15	4
10	6
5	8

It is evident that where the roof of the building continues nearly in line with the walls, as in Mansard roofs, the height and distance of the line must be reckoned from some part of the roof instead of from the cornice.

ARTICLE 4. SERVICES.

401. General.

a. Wires shall not be so interconnected as to form a shunt around any street fuse or switch.

b. No overhead service, no underground service from a subway and no service from an isolated plant shall supply more than one building, except by permission of the inspection department, unless the conductors are properly protected by fuses and are carried outside all the buildings but those served; provided, however, that wires or cables in conduit or duct placed under 2 inches of concrete beneath a building, or buried in 2 inches of concrete or brick within a wall, shall be considered as lying outside the building; and provided, further, that this requirement shall not apply to factory yards and buildings under single occupancy or management.

402. Overhead, from Main to Building.

a. Approved weatherproof or approved rubber covering shall be employed on single wires, and approved rubber covering on multiple-conductor cables. Wires shall not be smaller than No. 10 if of soft copper, or smaller than No. 12 if of medium or hard-drawn copper.

b. Wires or cables shall not approach nearer than 8 feet to buildings over which they pass, and, if attached to roofs thereof, shall be supported on substantial structures.

It is recommended that wires passing over a building be supported on structures which are independent of the building.

403. On Exterior of Building.

a. Wires or cables which are liable to contact with awnings, swinging signs, shutters or other movable objects shall be enclosed in approved conduit made weatherproof.

b. Wires or cables exposed to the weather shall be supported on potticoat insulators placed at intervals not exceeding 15 feet, this interval being decreased if the wires are subject to disturbance; and the insulators shall be so designed or located as to hold individual wires at least 1 foot apart and at least 2 inches from the surface wired over; provided, however, that brackets, racks, supports or insulators especially approved for the location may be used if they separate individual wires at least 6 inches and are placed at intervals not exceeding 9 feet.

c. Multiple-conductor cables shall be kept at least 6 inches from adjacent woodwork and at least 12 inches from overhanging projections of combustible material, unless approved fittings which afford equivalent protection are used.

d. Wires not exposed to the weather may be supported on glass or porcelain knobs placed at intervals not exceeding $4\frac{1}{2}$ feet and retaining the wires at least 1 inch from the surface wired over. Weatherproof or rubber covering shall be employed on conductors thus run.

404. Entrance.

a. All service wires shall enter the building at a point as near as practicable to the location of the service switch. They shall be rubber-covered from the point of support on the outside of the building nearest the entrance to the service switch and cutout, and shall not be smaller than No. 10.

It is recommended that conductors entering buildings from overhead lines be encased in approved rigid metal conduit having weatherproof threaded joints and equipped with approved service head, and that all wires of same circuit be placed in the same conduit. (See section 503, Table 1, for number and size of conductors permitted in service conduit.)

b. The inner end of service conduit shall enter the service cabinet, or be made up directly to an equivalent device enclosing all live metal parts, but need not be electrically connected to it if insulated from ground, and, if necessary, isolated or guarded.

c. Where conduit is not used, drip loops shall be formed on the individual wires which shall then pass upward and inward through slanting non-combustible, non-absorptive, insulating tubes.

d. Where a conduit enters from an underground distribution system it shall be tightly closed with asphaltum or other non-conductor, to prevent gases from entering the building.

405. Service Equipment, Within Building.

a. A switchboard, or an approved cabinet containing a service switch, shall be placed at the nearest readily accessible point to the entrance of the service, and within the building.

b. The service switch, unless mounted on a switchboard accessible only to qualified persons, shall be enclosed in a grounded metal case, shall indicate plainly whether it is open or closed, and shall disconnect all conductors of the circuit; provided, however, that where the switch, fuses and meter are combined in an approved device or compact combination of such devices having no live parts or wiring exposed and which is capable of being sealed or locked, the switch may be so connected that it will not disconnect the fuses or the meter from the supply line, the potential coils of the meter may be connected on the supply side of the service cutout, and the switch blade may be omitted in any grounded conductor if other means is provided within the cabinet for disconnecting such conductor.

It is recommended that the switch be of the externally operable type.

c. The service switch shall be operable without opening its enclosure unless additional switches are provided for control of individual circuits, as recommended below.

It is recommended that where the current of a single circuit, or group of circuits, is separately metered, as in apartment house installations, a switch and cutout be installed to control each separately metered installation, the switch and cutout being enclosed and the switch being externally operable. The location of this switch and cutout may, or may not, be close to the meter.

d. A switch controlling a 3-wire direct current or a single-phase system having the neutral grounded shall be of such design that the neutral cannot be opened without opening both of the outer conductors, but may be so designed that one outside conductor may be opened without opening the other.

e. A fuse or circuit breaker shall be placed in each ungrounded service conductor, and shall be controlled by the service switch, except as provided in paragraph b of this section. Where not located on a switchboard, live parts of cutout bases or circuit breakers shall be enclosed.

f. In risks having private plants the yard wires running from building to building shall not be considered as service wires; and cutouts shall not be required where the service wires enter buildings, provided the next fuse back is small enough to properly protect the wires inside the building in question.

ARTICLE 5. WIRING METHODS.

501. Open Wiring.

a. Supports shall be composed of approved non-combustible, non-absorptive insulating material, free from checks, rough projections or sharp edges which might injure the insulation on the conductor. If the supports are designed to grip the wires, either screws or nails may be used



to fasten the supports in place, but nails shall be long enough to penetrate the woodwork not less than $\frac{1}{2}$ the depth of the knob and fully the thickness of the cleat. Cushion washers shall be used with nails.

b. Supports shall provide at least $\frac{1}{4}$ inch separation between the securing screw or nail and the wire, and shall be designed for two securing screws if of the split knob (or single-wire cleat) type intended for wires larger than No. 4.

c. Multiple-wire cleats shall be so designed as to separate the wires at least $2\frac{1}{2}$ inches and maintain them at least $\frac{1}{2}$ inch from the surface wired over. Such cleats shall not be employed to support wires operating at a potential exceeding 300 volts.

d. Knobs shall be so designed as to maintain the wire at least 1 inch from the surface wired over, and shall conform to the following minimum dimensions:

Size of Wire Inclusive	Size of Base, Inches			Solid Knobs, Groove, Inches		*Split Knobs, Inches
	Circular Knobs, Diameter	Square Knobs or Single Wire Cleats, Width	Length	Depth	Diam.	
14-10	1 $\frac{1}{4}$	$\frac{3}{4}$	1 $\frac{3}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
8-4	1 $\frac{1}{2}$	$\frac{1}{2}$	2	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
2-00	2	1	2 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{1}{2}$
000-3000,000 C. M.	2 $\frac{1}{2}$	1 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{1}{8}$	$\frac{3}{4}$	$\frac{1}{2}$
400,000-1,000,000 C. M.	3	1 $\frac{1}{2}$	3 $\frac{3}{4}$	$\frac{1}{8}$	1 $\frac{1}{4}$	1

*Thickness of cap from top of wire groove.

e. Tubes and bushings shall conform to the following minimum dimensions:

Diameter of Hole Inches	External Diameter Inches	Thickness of Wall Inches	External Diameter of Head, Inches	Length of Head Inches
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{2}$
$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{16}$	$\frac{3}{8}$	$\frac{3}{4}$
$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{16}$	$\frac{1}{2}$	1
$\frac{5}{8}$	$\frac{5}{8}$	$\frac{1}{16}$	$\frac{5}{8}$	1 $\frac{1}{4}$
1	1	$\frac{1}{16}$	1	1 $\frac{1}{2}$
1 $\frac{1}{4}$	1 $\frac{1}{4}$	$\frac{1}{16}$	1 $\frac{1}{4}$	2
1 $\frac{1}{2}$	1 $\frac{1}{2}$	$\frac{1}{16}$	1 $\frac{1}{2}$	2 $\frac{1}{2}$
1 $\frac{3}{4}$	1 $\frac{3}{4}$	$\frac{1}{16}$	1 $\frac{3}{4}$	3
2	2	$\frac{1}{16}$	2	3 $\frac{1}{2}$
2 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{1}{16}$	2 $\frac{1}{2}$	4
3	3	$\frac{1}{16}$	3	4 $\frac{1}{2}$
3 $\frac{1}{2}$	3 $\frac{1}{2}$	$\frac{1}{16}$	3 $\frac{1}{2}$	5

An allowance of $1/64$ of an inch for variation in manufacturing will be permitted, except in the thickness of the wall.

f. Wires located in dry places shall be of approved rubber-covered (R), slow-burning weatherproof (SBW), varnished cloth insulated (VC) or slow burning (SB) type.

g. Wires located in damp places or in buildings especially subject to moisture shall be of the rubber-covered type. Wires subjected to corrosive vapors shall be of the weatherproof, varnished cloth or rubber covered type, as may be directed by the inspection department. Where the environment is such that rapid deterioration of conductors or insulation is probable, the inspection department may require the wires to be suitably enclosed, coated or otherwise protected to better withstand the particular conditions of service.

h. Wires shall not be laid in plaster, cement or similar finish, nor fished for any great distance or where the inspector cannot satisfy himself that the rules have been complied with. Wires shall not be fastened with staples.

i. Twin wires shall not be used, except in conduit or where flexible conductors are necessary.

j. Wires of No. 8 or larger supported on solid knobs shall be securely tied thereto. If wires are used for typing, they shall have an insulation of the same type as that of the wires which they confine.

k. Wires in dry places shall be rigidly supported with a separation of $2\frac{1}{2}$ inches from each other and $\frac{1}{2}$ inch from the surface wired over, for voltages not exceeding 300, and a separation of 4 inches and 1 inch respectively, for voltages between 301 and 600. In damp places a separation of at least 1 inch from the surface wired over shall be maintained.

Rigid supporting requires under ordinary circumstances, when wiring over flat surfaces, supports at least every $4\frac{1}{2}$ feet, this interval being shortened if the wires are liable to be disturbed. In buildings of mill construction, mains not smaller than No. 8, where not liable to be disturbed, may be separated about 6 inches and run direct from timber to timber, being supported at each timber only.

l. Wires shall not be dead-ended at a rosette, socket or receptacle unless the last support is within 12 inches of the same.

m. Wires exposed to mechanical injury shall be suitably protected by running boards not less than $\frac{1}{2}$ inch in thickness and 3 inches in width, or by guard strips not less than $\frac{1}{2}$ inch in thickness and at least as high as the insulating supports, placed on each side of and close to the wiring.

Protection may also be secured by resorting to another method of wiring, such as approved conduit or armored cable. This is desirable when crossing floor timbers. In unfinished attics or accessible roof spaces wires are considered to be exposed to mechanical injury if run on upper edges of joists.

n. Open wiring shall not be placed in elevator shafts.

o. Vertical wires exposed to mechanical injury on side walls shall be protected by a substantial boxing, extending upward to a point not less than 7 feet above the floor, said boxing closed at the top by bushed holes through which the wires pass, and providing an air space of 1 inch about the wires. A sleeve of metal pipe may be substituted for the boxing, in which case the insulation of each wire shall be reinforced by approved flexible tubing extending from the insulating support adjacent to one end of the pipe to the insulating support adjacent to the other end. If alternating current is used, all wires of a circuit shall be contained in one pipe.

In damp places the wooden boxing may be preferable, because of the precautions which would be necessary to secure proper insulation if pipe were used. With this exception, however, iron pipe is considered preferable to the wooden boxing, and its use is recommended, as it is especially suitable for the protection of wires near belts, pulleys, etc.

p. Wires located in damp places shall be so placed that an air space will be permanently maintained between them and pipes which they cross.

Wires run in close proximity to water pipes or tanks are considered to be exposed to moisture. It is recommended that wires be run over, rather than under, pipes upon which moisture is likely to gather or which may leak.

q. Wires shall be separated from contact with walls, floors, timbers or partitions through which they pass by tubes or bushings composed of approved non-combustible, non-absorptive insulating material. If the bushing is shorter than the hole, a waterproof sleeve, such as an iron pipe, shall be inserted in the hole and an insulating bushing slipped into the sleeve at either end and in such a manner as to keep the wire absolutely out of contact with the sleeve.

r. Wires shall be permanently separated from adjacent metallic piping or other conducting material, or from any exposed lighting, power or signal wire which approaches within 2 inches, by a firmly fixed and continuous non-conductor, additional to the insulation on the wire. Where an insulating tube is used, it shall be secured at the ends.

Deviations from this requirement may, where necessary, be allowed by the inspection department.

Wires run in unfinished attics, or roof spaces, are considered to be concealed.

502. Knob-and-tube Work.

a. Supports shall conform to the requirements for knobs, tubes and bushings, as prescribed in section 501 of this code.

b. Wires shall be of approved rubber-covered type (R).

c. Wires shall be separated at least 5 inches and maintained at least 1 inch from the surface wired over. At distributing centers, meters, outlets, switches or other places where space is limited and the 5 inch separation cannot be maintained, each wire shall be encased in a continuous length of approved flexible tubing.

It is recommended that wires be run singly on separate timbers or stud-ding.

d. Flexible tubing shall have a smooth interior, and its outer surface shall be treated with a moisture repellent and shall not convey fire when ignited and held in a vertical position. The tubing shall be so designed that the interior lining, if there is one, cannot be removed in lengths greater than 3 feet, and the tubing shall be sufficiently tough and tenacious to withstand any abrasion likely to be encountered in service.

e. Where it is impracticable to employ insulating supports, the wires, if not exposed to moisture and if operated at a potential not exceeding 300 volts, may be fished if separately encased in approved flexible tubing extending in continuous lengths from one support to the next or to the outlet, or from one outlet to another; otherwise, approved conduit or approved armored cable shall be used.

f. Where a change is made from concealed work to conduit or armored cable, an approved terminal fitting shall be used which provides a separate bushed hole for each wire, which wire shall then pass through the fitting without splice, joint or tap. In this case the terminal fitting need not be accessible.

g. In installing wires the precautions as to rigid supporting, separation between wires and clearance from foreign objects, as prescribed in section 501, of this code shall be observed. Wires passing through cross timbers in plastered partitions shall be protected by an additional tube extending at least four inches above the timber.

h. Approved outlet boxes or plates shall be installed at all outlets, and the flexible tubing shall extend from the last knob into and be secured to such boxes or plates.

503. Conduit Work.

a. All surfaces of the conduit tube, elbows, bends and similar fittings shall be suitably protected from corrosion.

b. No conduit smaller than $\frac{1}{2}$ inch, electrical trade size, shall be used; provided, however, that concealed extensions from existing branch circuit outlets in buildings of fireproof construction, may be made by means of approved flexible or rigid conduit, not smaller than $5/16$ inch, or other forms of metal raceway approved for the purpose, and fittings containing one No. 14 rubber-covered wire. This conduit shall not be run in concealed spaces but may be laid on the face of the fireproofing and may be plastered over. Such extensions shall be confined to the room or suite in which they originate.

c. Finished conduit, as shipped, shall be in 10-foot lengths, with each end reamed and threaded, and shall have an interior coating of a character and appearance which will readily distinguish it from ordinary pipe commonly used for other than electrical purposes. One coupling shall be furnished with each length.

d. Elbows or bends shall be so made that the conduit will not be injured. The radius of the curve of the inner edge of any elbow shall be not less than $3\frac{1}{2}$ inches.

e. Conduit shall be installed as a complete system, without the wires. It shall be continuous from outlet to outlet, or from fitting to fitting, and shall be mechanically connected to all fittings. The entire system shall be securely fastened in position.

Ordinarily, this involves carrying service pipes and main runs into the cutout box or cabinet; but the requirement may be waived in the case of an underground service.

It is recommended that preference be given to outlet boxes and fittings having conductive coatings, in order to secure better electrical contact at all points of the conduit system.

It is recommended that for all sidewall and partition outlets in concealed work in new buildings under construction outlet boxes having a depth of approximately $1\frac{1}{2}$ inches be provided.

f. A run of conduit, between outlet and outlet or between fitting and fitting, shall include not more than the equivalent of 4 quarter bends, the bends at the outlets or junction boxes not being counted.

g. Where a conduit enters a box or other fitting an approved bushing shall be provided to protect the wire from abrasion, unless the design of the box or fitting is such as to afford equivalent protection.

h. Conduit shall be grounded as prescribed in article 9 of this code, and at a point as near as practicable to the source of supply; provided, however, that this requirement shall not apply to service runs of any length or to isolated house conduit runs not exceeding 25 feet, when these runs are insulated from ground and from other metal on the premises and are guarded when within reach from grounded surfaces.

i. Conduit wire shall be of approved rubber covered type, or, if in a permanently dry location, of the varnished cloth insulated type. A double braid shall be provided for conductors larger than No. 8 and for all twin, twisted or multiple-conductor cables. Slow-burning insulation may, however, be used in permanently dry and excessively hot locations by permission of the inspection department. All wires of No. 6 or larger shall be stranded. There shall be no splice or tap within the conduit proper.

j. Wires shall not be drawn in until all mechanical work on the building has been completed, as far as possible. Wires of different systems shall not occupy the same conduit.

Different systems are those which derive their supply from (1) different sources of current, (2) transformers connected to separate primary circuits, or (3) transformers having different secondary voltages.

k. When alternating current is to be employed, all conductors of a circuit shall be placed within one conduit, except as provided in paragraph b of this section.

It is recommended that this course be pursued in the case of direct current also, in order to obviate induction troubles if a change is made to alternating current at a later date.



1. Except in the case of stage pocket and border circuits, or by permission of the inspection department, one conduit shall not contain more wires than as specified in Table 1, of this section.

m. Size of Conduits for the Installation of Wires and Cables.

The following tables apply only to complete conduit systems, and do not apply to short sections of conduit used for the protection of exposed wiring from mechanical injury.

TABLE 1. TWO-WIRE AND THREE-WIRE SYSTEMS

Size of Wire	Number of Wires in One Conduit								
	1	2	3	4	5	6	7	8	9
14	1/2	1/2	3/4	3/4	1	1	1	1	1 1/4
12	1/2	1/2	3/4	3/4	1	1	1	1	1 1/4
10	1/2	1/2	3/4	3/4	1	1	1 1/4	1 1/4	1 1/4
8	1/2	1/2	3/4	3/4	1	1 1/4	1 1/4	1 1/4	1 1/4
6	1/2	1/2	3/4	3/4	1 1/4	1 1/4	2	2	2 1/4
5	1/2	1/2	3/4	3/4	1 1/4	1 1/4	2	2	2 1/4
4	1/2	1/2	3/4	3/4	1 1/4	1 1/4	2	2 1/4	2 1/4
3	1/2	1/2	3/4	3/4	1 1/4	1 1/4	2	2 1/4	2 1/4
2	1/2	1/2	3/4	3/4	1 1/4	1 1/4	2 1/4	2 1/4	2 1/4
1	1/2	1/2	3/4	3/4	1 1/4	1 1/4	2 1/4	2 1/4	2 1/4
0	1	1	2	2	2 1/4	2 1/4	3	3	3 1/4
00	1	1	2	2	2 1/4	2 1/4	3	3	3 1/4
000	1	1	2	2	2 1/4	2 1/4	3	3	3 1/4
0000	1	1	2	2	2 1/4	2 1/4	3	3	3 1/4
200000 C. M.	1 1/4	1 1/4	2 1/4	2 1/4	3	3	3 1/4	3 1/4	4
225000	1 1/4	1 1/4	2 1/4	2 1/4	3	3	3 1/4	3 1/4	4
250000	1 1/4	1 1/4	2 1/4	2 1/4	3	3	3 1/4	3 1/4	4
300000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
350000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
400000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
450000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
500000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
550000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
600000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
650000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
700000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
750000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
800000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
850000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
900000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
950000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1000000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1100000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1200000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1250000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1300000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1400000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1500000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1600000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1700000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1750000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1800000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
1900000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4
2000000	1 1/4	1 1/4	2 1/4	2 1/4	3	3 1/4	3 1/4	3 1/4	4

Where single conductor, single braid, solid wires only, are used, four No. 14 wires may be installed in a 1/2 inch conduit and up to seven No. 14 wires in a 3/4 inch conduit. Three No. 12 wires may be installed in a 1/2 inch conduit, four No. 10 wires in 3/4 inch conduit and three No. 8 wires in a 3/4 inch conduit.

TABLE 2. THREE-CONDUCTOR CONVERTIBLE SYSTEM

Size of Wire	Size of Wires and one	Size Conduit Electrical Trade Size, Inches
two	14	10
"	12	8
"	8	6
"	6	4
"	5	2
"	4	1
"	3	0
"	2	00
"	1	000
"	0	0000
"	00	250000
"	000	350000
"	0000	400000
"	250000	550000
"	300000	600000
"	400000	800000
"	500000	1000000
"	600000	1250000
"	700000	1500000
"	800000	1750000
"		2000000

TABLE 3. STAGE POCKET AND BORDER CIRCUITS, AND ELSEWHERE BY SPECIAL PERMISSION

Size of Wire	Maximum Number of Wires in Conduit			
	1	1 1/4	2	3
14	11	19	16	43
12		15	16	34
10		12	16	27
8			13	22
6				14
				22

For groups or combinations not included in the above tables, consult the inspection department. For such groups or combinations, it is recommended that the conduit be of such size, that the sum of the cross-sectional areas of the several conductors will not be more than 40 per cent of the interior cross-sectional area of the conduit.

n. Wires in vertical conduits shall be supported at the following intervals:

No. 14	to No. 0	Not greater than 100 feet.
No. 00	" " " " " "	" " " " " "
No. 0000	" " " " " "	" " " " " "
350001 C. M.	" " " " " "	" " " " " "
500001 C. M.	" " " " " "	" " " " " "
500001 C. M.	" " " " " "	" " " " " "
above 750000 C. M.	" " " " " "	" " " " " "

The following methods of supporting cables are recommended:

1. By approved clamping devices constructed of or employing insulating wedges inserted in the ends of the conduits.
2. By inserting junction boxes at the required intervals in which insulating supports of approved type are installed and secured in a satisfactory manner to withstand the weight of the conductors attached thereto, the boxes being provided with covers.
3. In approved junction boxes, by deflecting the cables not less than 90 degrees and carrying them horizontally to a distance not less than twice the diameter of the cable, the cables being carried on two or more insulating supports, and additionally secured thereto by wires if desired.

o. Vertical wires of No. 2 or larger, shall not be deflected where they enter or leave a cabinet; provided, however, that wires of No. 2 to 250000 C. M., inclusive, if brought into a cabinet or box opposite the panel lugs in which they terminate, may be deflected sufficiently to permit their attachment to these lugs, if the gutter is not less than 4 inches in width.

504. Other Wire Raceways.

a. Raceways shall be used only in exposed dry locations and where the maximum difference of potential between wires therein does not exceed 300 volts. They shall not be placed in elevator shafts.

b. Wooden raceways shall be coated, externally and internally, with 2 layers of waterproofing, or shall be impregnated with a moisture repellent. The raceway shall be composed of two parts, a backing and a capping, and shall afford suitable protection against abrasion of wires. It shall be so constructed as to thoroughly encase the wire, having a barrier of not less than 1/4 inch in thickness between wires, and having exterior walls which under grooves shall be not less than 3/8 inch in thickness and on sides not less than 1/4 inch in thickness.

It is recommended that only hardwood be used.

c. Metal raceways shall be of such construction as will distinguish them from metal conduit. All surfaces of raceway, elbows, bends and similar fittings shall be suitably protected from corrosion.

d. Metal raceways and their elbows, couplings and similar fittings shall be so designed that the sections can be electrically and mechanically coupled together, while protecting the wires from abrasion. Holes for screws or bolts inside the raceway shall be so designed that when screws or bolts are in place their heads will be flush with the metal surface.

e. Wires shall be of approved rubber-covered type, and shall be continuous from outlet to outlet, or from fitting to fitting, no joints or taps being located in the raceway proper.

f. Not more than 4 No. 14 wires, nor any circuit protected by fuses larger than 20 amperes at 125 volts or 10 amperes at 250 volts, shall be placed in any metal raceway.

g. Where alternating current is to be employed in connection with metal raceway work, all wires of a circuit shall be placed in one raceway.

It is recommended that this course be pursued in the case of direct current also, in order to obviate induction troubles if a change is made to alternating current at some later date.

h. Metal raceway shall be continuous from outlet to outlet, or from approved fitting to approved fitting. It may be extended through dry walls or dry partitions if in unbroken lengths where passing through; but, where the wall or partition is damp, or where the raceway passes through a floor, an iron pipe sleeve shall be placed over the raceway and shall extend clear of either side of the wall or partition, or from the ceiling below to a point at least 3 inches above the flooring. Where protection from mechanical injury is necessary, the iron pipe sleeve shall extend to a point at least 5 feet above the flooring.

i. Metal raceway shall be grounded and as prescribed in article 9 of this code, at a point as near as practicable to the source of supply; provided, however, that this requirement shall not apply to service runs of any length or to isolated house raceway runs not exceeding 25 feet, when these runs are insulated from ground and from other metal on the premises and are guarded when within reach from grounded surfaces.

505. Armored Cable.

a. Wires of armored cables shall be of rubber-covered type. The armored cable shall carry a distinctive marker throughout its entire length.

b. Where alternating current is to be employed, all conductors of a circuit shall be contained within one armor; provided, however, that concealed extensions from branch circuit outlets in buildings of fireproof construction may be made by means of single, double or triple conductor armored cable with suitable fittings at outlets. This cable shall not be run in concealed spaces but may be laid on the face of the fireproofing and may be plastered over. Such extensions shall be confined to the room or suite in which they originate.

It is recommended that in the case of direct current also all conductors of a circuit be placed within one armor, in order to obviate induction troubles if a change is made to alternating current at a later date.

c. Cable shall be continuous from outlet to outlet, or from fitting to fitting, and the armor shall be mechanically connected to all fittings, the entire cable system being securely fastened in place.

Ordinarily, this involves carrying service cables and house cables into the cutout box or cabinet, but the requirement may be waived in the case of an underground service.

It is recommended that for all sidewall and partition outlets in concealed work in new buildings under construction outlet boxes having a depth of approximately 1 1/2 inches be provided.

d. A lead sheath shall be interposed between the outer braid and the steel armor where cable is installed in so-called fireproof buildings in course of construction or in such buildings when completed if the cable will be exposed to moisture, or where the cable is exposed to the weather, or in breweries, stables or other damp places; provided, however, that the lead sheath shall not be required if the cable is laid against a brick wall or laid within an ordinary plaster wall, unless these walls are continuously damp.

e. All bends shall be so made that the armor of the cable will not be injured, and the radius of the curve of the inner edge of any bend shall not be less than 1 1/2 inches.

f. The armor shall be grounded as prescribed in article 9 of this code, and at a point as near as practicable to the source of supply; provided, however, that this requirement shall not apply to service runs of any length or to isolated house cable runs not exceeding 25 feet, when these runs are insulated from ground and from other metal on the premises and are guarded when within reach from grounded surfaces.

506. Decorative Lighting Systems.

a. Temporary installations of approved systems of decorative lighting shall be used only when permission therefor has been granted by the inspection department and where the difference of potential between the wires of any circuit does not exceed 150 volts and where the number of outlets and lamps connected to them is in no case such as to place more than 15 amperes on a branch circuit fuse.

507. Insulation Resistance.

a. A completed installation shall have a resistance between conductors, and between all conductors and ground, not less than:

Up to	5 amperes	4,000,000 ohms.
"	10	2,000,000 "
"	25	800,000 "
"	50	400,000 "
"	100	200,000 "
"	200	100,000 "
"	400	50,000 "
"	800	25,000 "
"	1,600	12,000 "

b. The above values shall be determined with all cutouts and safety devices in place. If lamp sockets, receptacles, fixtures and other appliances are also connected, the minimum resistance required shall be one-half that specified in the table.



ARTICLE 6. CONDUCTORS.

601. Classification and Construction.

a. Wires, cables and cords of all kinds except weatherproof wire shall have a distinctive marking the entire length of the coil so that they may be readily identified in the field. All wires, cables and cords shall also be plainly tagged or marked as follows:

1. The maximum working pressure or voltage for which the wire was tested or approved. This may be omitted for slow-burning, slow-burning weatherproof and weatherproof wires.

2. The words "National Electrical Code Standard."

3. Name of the manufacturing company and, if desired, trade name of the wire.

4. Month and year when manufactured.

5. The proper type letter for the particular style of wire or cable as given in the following sections for each type of insulation.

b. For conductor sizes No. 8 and smaller the neutral conductor on all 3-wire circuits and one conductor on all 2-wire circuits shall have a continuous identifying marker readily distinguishing it from the other conductors. For rubber-covered wire the identification shall consist of a white or natural gray covering. When one of the circuit wires is to be grounded, the ground connection shall be made to this identified wire.

c. Conductors, whether solid or stranded, shall not be of smaller size than No. 14 except as allowed for fixture work and for flexible cords.

602. Rubber-covered Wire.

a. Classification.

R.	Rubber covered for voltages	0-600
R15.....	Rubber covered for max. voltages	1500
R25.....	" " " " "	2500
R35.....	" " " " "	3500
R50.....	" " " " "	5000
R70.....	" " " " "	7000
RL.....	Rubber-covered, leaded.	
AC.....	Wires for use in armored cable.	
ACL.....	Leaded wires for use in armored cable.	

b. All National Electrical Code Standard rubber-covered wires shall be examined and tested at the factory and shall be labeled before shipment.

c. All conductors and the individual wires of stranded conductors shall be tinned.

d. Conductors shall be insulated for their entire length with a properly applied and properly vulcanized rubber compound. The insulation shall be of the nominal thickness given in the following table, the requirements of which vary according to the sizes of conductors and the maximum working pressure.

Table of Thickness of Rubber Insulation for Rubber-covered Wires and Cables in 64th Inches.

Size of Conductor American or B. & S. Gauge	*Stranding	Type					
		R-600 Volts	R-15 1500 Volts	R-25 2500 Volts	R-35 3500 Volts	R-50 5000 Volts	R-70 7000 Volts
14 to 8	7/25 to 7/51	3	6	8	10	12	16
7 to 2	7/64 to 7/102	4	7	9	10	12	16
1 to 0000	19/64 to 19/107	5	8	10	10	12	16
M. 225,000 to 500,000	19/114 to 37/116	6	9	10	11	12	16
525,000 to 1,000,000	61/102 to 61/128	7	10	10	12	12	16
Over 1,000,000	91/114 to 91/128	8	10	10	12	14	18

*The second column above refers to wires and cables having standardized stranding as given in Table II of section 610. The first column refers to solid conductors and to wires and cables stranded otherwise than in Table II.

e. All single conductor rubber-covered wires and cables shall have a covering of fibrous material applied directly to the surface of the insulating wall. For any single conductor wire there shall be at least one braid for sizes from No. 14 to and including No. 8. For all single-conductor cables larger than No. 8 there shall be at least two braids or a tape and a braid. For twin wires and twisted pair wires and for all multiple conductor cables there shall be a fibrous covering on each individual wire and in addition a braid enclosing the bunched conductors. For certain special service conditions, one or more additional coverings of fibrous material or of lead may be required. Fibrous coverings may be either braid or tape but tape shall not be used for the outer covering. All braids shall be impregnated with a moisture-proof compound.

f. Lead coverings may be applied to single or multiple conductors. Lead-covered multiple conductor cable with more than two conductors shall, in all cases, have the conductors spirally laid. In all cases, the individual conductors of lead-covered cable shall have a fibrous covering and, except for two conductor cables with conductors parallel, there shall be a fibrous covering over bunched conductors.

603. Flexible Cords.

a. All National Electrical Code Standard rubber-covered flexible cords shall be examined and tested at the factory and shall be labeled before shipment.

b. Each conductor shall have a carrying capacity not less than that of a No. 18 wire.

c. The insulation, except for heater cord (Type H), shall consist of a properly applied and properly vulcanized rubber compound of the nominal thickness given in the following table:

Gauge	Thickness Inches
18 and 16	$\frac{1}{16}$
14 to 8	$\frac{1}{8}$

When used where the voltage between any two conductors or from any conductor to the ground is over 300 volts, the insulation on flexible cords shall be at least $\frac{1}{4}$ inch in thickness for all conductor sizes No. 8 or less, except in street railway property where cords Nos. 16 and 18 supplying pendant lamps may have an insulation $\frac{1}{8}$ inch in thickness.

d. Each conductor shall, except for heater cord, be covered with a tight, close wind of fine cotton, or some other method shall be employed to prevent a broken strand puncturing the insulation. Cords of the several types shall conform to the descriptions given in the following table:

As Pendants or Portables in Dry Places
Where Not Subject to Hard Usage

Type	Trade Name	Braid on Each Conductor	Reinforcement or Filler	Outer Cover
C	Lamp Cord	Cotton or Silk		Cotton or Silk
PD	Twisted Portable	" " "		" " "
PO	Parallel Cord	" " "		" " "
SJ	Type SJ	No Cot. Braids Spec. Rub. Jkt.		No Outer Braid
For Hard Usage				
P	Reinforced Cord	Cotton or Silk	Rubber Jacket	Cotton or Silk
S	Hard Service Cord	No Cot. Braids Spec. Rub. Jkt.		No Outer Braid
CA	Armored Cord	Cotton or Silk		Armor
PA	Armor Reinf. Cord	" " "	Rubber Jacket	Cotton and Armor
Pendants—Damp Places				
CB	Brewery Cord	Cotton Wp.		.....
CC	Canvaste Cord	" " "		.....
S	Hard Service Cord	.....		Cotton Wp.
SJ	Type SJ	.....		.....

Portable—Damp Places

PWP	Reinforced Cord Wp.	Cotton	Rubber Jacket	Cotton Wp.
Pk WP	Packinhouse Cord	"	Filler	2 Cotton both Wp.
PAWP	Armored Reinf. Cord Wp.	"	Rubber Jacket	Cotton Wp. and Armor
SJ	Hard Service Cord Type SJ			

Theatre Stages

T	Stage Cable	Cotton Wp.	Filler	2 Cotton both Wp.
S	See Type S above			

Theatre Borders

B	Border Light Cable	Cotton Wp.		2 Cotton both Wp.
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Elevator Lighting and Control

E	Elevator Cable		Rubber Jacket and or	1 or more Cotton both Wp.
S	See Type S above	Cotton		3 Cotton, outer one Wp.

Portable Heaters

H	Heater Cord			
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(Type C.) For general use as pendants in dry places: as portables for use where not exposed to hard usage.

(Type CB and CC.) These cords should hang freely in air.

(Type PD and PO.) These cords are for use only in offices, dwellings and similar places where not liable to hard usage.

For type PD the conductors are twisted together; for type PO the conductors are laid parallel under the outer braid.

(Type T.) This cord consists of not more than three conductors, each not exceeding No. 4 twisted together and with a filler, the insulation on each conductor of No. 6 to No. 4 being $\frac{1}{16}$ inch in thickness.

(Type E.) For elevator lighting this cord consists of conductors not smaller than No. 14 and for elevator control of conductors not smaller than No. 16.

(Type SJ) For general use pendant or portable in wet or dry locations.

(Type S.) For general use pendant or portable in wet or dry locations and where extra hard service conditions exist, including theatre stages, elevator lighting and control cables and garages.

(Type SJ and S.) The rubber compounds for the insulation and jacket on these cords is of superior quality.

(Type H.) For Portable Heating Apparatus: This cord is for use with all smoothing and sad-irons and with other heating devices requiring over 250 watts. The covering may consist of a layer of rubber or other approved material, a covering of asbestos and an outer braid enclosing either all the conductors as a whole, or each conductor separately.

e. Other types of coverings shall be submitted for special examination and approved before being used.

604. Fixture Wire. Types F-32 and F-64.

For construction and installation of fixtures, see article 14.

a. Fixture wire shall be wired with approved flexible cord or approved rubber-covered wire; provided, however, that in wiring fixtures where the insulation will be subjected to temperatures in excess of 120 degrees F. (49 degrees C.), wires having approved slow-burning or other heat-resisting coverings shall be used.

b. All National Electrical Code rubber-covered fixture wire shall be examined and tested at the factory and shall be labeled before shipment.

c. The conductors of fixture wires may be either solid or stranded but shall not be smaller than No. 18 gauge. If stranded conductor is used each conductor shall be covered with a tight close wind of fine cotton or some other method shall be used to prevent a broken strand puncturing the insulation. Solid conductors shall be tinned.

d. The insulation shall consist of properly applied and properly vulcanized rubber compound. The thickness of insulation shall be not less than $\frac{1}{16}$ inch for No. 18 wire and not less than $\frac{1}{8}$ inch for No. 16.

3. Coverings shall be of braided cotton or silk or of other approved material and shall be sufficiently tenacious to withstand abrasion when being pulled into fixtures.

605. Armored Cables and Cord. Types AC, CA, PA and PAWP.

For installation of armored cable see section 505.

a. The conductors shall comply with the requirements for rubber-covered wires or cords of the specified types and construction.

b. The cable or cord shall have a distinctive marker its entire length.

606. Varnished Cloth Insulated Wire. Type VC.

For installation see article 5.

a. This insulation shall not be used where exposed to moisture.

b. The insulation shall consist of layers of varnished cotton cloth applied and filled as may be specified, and shall have coverings conforming to the requirements for rubber-covered wire as prescribed in section 602 of this code.

c. The thickness of the insulation shall be not less than that prescribed in section 602 of this code for the rubber insulation of rubber-covered wire of the same conductor size and voltage.

d. No individual conductor, whether solid or stranded, shall be less than No. 14 gauge. Conductors may be either plain or tinned.

The use of varnished cloth insulation is not recommended under ordinary conditions in conductor sizes smaller than No. 6, but smaller sizes may be used for leads on motors, generators, oil-filled transformers, autotransformer starters, oil switches and other apparatus where oil may come in contact with the insulation and when such leads are furnished as part of the device. In other cases varnished cloth insulated wires smaller than No. 6 may be used only by permission of the inspection department.

e. The following tests shall be applied to varnished cloth insulated wires:

1. On the wire as a whole: voltage test, insulation resistance test.
2. On test specimens: heating test, dielectric strength.

607. Slow-burning Weatherproof Wire. Type SBW.

For installation, see article 5. This wire is not as burnable as weatherproof, nor as subject to softening under heat. It is not suitable for outside work.



a. The insulation shall consist of two coatings, one to be fireproof and the other weatherproof. The fireproof coating shall be on the outside and shall comprise about six-tenths of the total thickness of the wall.

b. The thickness of the completed covering shall be not less than that prescribed in section 602 of this code for rubber insulation of 0-600 volt rubber-covered wires.

608. Slow-Burning Wire. Type SB.

For installation, see article 5. This insulation is especially useful in hot, dry places where ordinary insulations would perish, and where wires are bunched as on the back of a large switchboard or in a wire tower, so that the accumulations of rubber insulation would result in an objectionable large mass of highly inflammable material.

a. Slow-burning conductors especially designed and approved for use in fixtures as prescribed in section 604 of this code need not necessarily comply with the requirements of paragraphs b and c of this section.

b. The insulation shall consist of three braids of cotton or other thread, all the interstices of which shall be filled with material having fire-resisting and insulating properties. Its surface shall be finished smooth and hard.

c. The thickness of the completed covering shall be not less than that prescribed in section 602 of this code for the rubber insulation of 0-600 volt rubber-covered wires.

609. Weatherproof Wire. Type WP.

For installation see article 5. This wire is for use outdoors, where moisture is certain, and where fireproof qualities are not necessary.

a. The insulating covering shall consist of at least three braids, all of which shall be thoroughly saturated with a dense moistureproof compound. The thickness of the completed covering shall be not less than that prescribed in section 602 of this code for the rubber insulation of 0-600 volt rubber-covered wires.

610. Carrying Capacities of Conductors.

a. The following tables, giving the allowable carrying capacities of copper wires and cables of 98 per cent. conductivity, according to the standard adopted by the American Institute of Electrical Engineers, shall be followed in placing interior conductors.

b. For insulated aluminum wire the allowable carrying capacities shall be taken as 84 per cent. of those given in the table for the respective sizes of copper wire with the same kind of insulation.

c. Conductors of size Nos. 18 and 16 shall be used only for flexible cords and for fixture wires.

d. Conductors may be placed in multiple only by permission of the inspection department.

e. Varnished cloth insulated wires smaller than No. 6 shall be used only by permission of the inspection department.

TABLE I. ALLOWABLE CARRYING CAPACITIES OF WIRES.

B. & S. Gauge	Diameter of Solid Wires, Mils	Area in Circular Mils	Table B Rubber Insulation			Table C Varnished Cloth Insulation		
			Amperes	Insulation	Other	Amperes	Insulation	Other
18	40.3	1,624	3			5		
16	50.8	2,583	6			10		
14	64.1	4,107	15	18	20	20		
12	80.8	6,530	20	25	25	25		
10	101.9	10,380	25	30	30	30		
8	128.5	16,510	35	40	40	50		
6	162.0	26,250	50	60	60	70		
5	181.9	33,100	55	65	65	80		
4	204.3	41,740	70	85	85	90		
3	229.4	52,630	80	95	95	100		
2	257.6	66,370	90	110	110	125		
1	289.3	83,690	100	120	120	150		
0	325.	105,500	125	150	150	200		
00	364.8	133,100	150	180	180	225		
000	409.6	167,800	175	210	210	275		
		200,000	200	240	240	300		
0000	460.	211,600	225	270	270	325		
		250,000	250	300	300	350		
		300,000	275	330	330	400		
		350,000	300	360	360	450		
		400,000	325	390	390	500		
		500,000	400	480	480	600		
		600,000	450	540	540	680		
		700,000	500	600	600	760		
		800,000	550	660	660	840		
		900,000	600	720	720	920		
		1,000,000	650	780	780	1,000		
		1,100,000	690	830	830	1,080		
		1,200,000	730	880	880	1,150		
		1,300,000	770	920	920	1,220		
		1,400,000	810	970	970	1,290		
		1,500,000	850	1,020	1,020	1,360		
		1,600,000	890	1,070	1,070	1,430		
		1,700,000	930	1,120	1,120	1,490		
		1,800,000	970	1,160	1,160	1,550		
		1,900,000	1,010	1,210	1,210	1,610		
		2,000,000	1,050	1,260	1,260	1,670		

1 Mil=0.001 inch.

TABLE II. STANDARDIZED STRANDING.

Strands		Cable		Allowable Carrying Capacities.	
No. of Strands	B. & S. Gauge No.	Area in Cir. Mils	Outside Dia. over Copper	Table A Rubber Insulation	Table B Varnished Cloth Insulation
7/25	22	4,490	.075	15	18
7/32	20	7,150	.096	20	25
7/40	18	11,370	.120	25	30
7/51	16	18,080	.153	35	40
7/64	14	28,740	.192	50	60
7/81	12	45,710	.253	70	85
7/91	11	58,000	.273	80	95
7/102	10	72,850	.306	90	110
19/64	14	78,030	.320	100	120
19/72	13	98,380	.360	125	150
19/81	12	124,900	.405	150	180
19/91	11	157,300	.455	175	210
19/107	*	217,500	.540	225	270
19/114	9	248,700	.570	250	300
37/91	11	306,400	.637	275	330
37/97	*	347,500	.679	300	360
37/102	10	381,200	.714	325	390
37/116	*	484,300	.798	400	480
61/102	10	633,300	.918	475	565
61/107	*	698,000	.963	500	600
61/114	9	798,300	1.030	550	660
61/121	*	893,100	1.090	600	720
61/128	8	1,007,000	1.150	650	780
91/114	9	1,191,000	1.250	725	870
91/128	8	1,502,000	1.410	850	1,020
127/114	9	1,660,000	1.480	900	1,100
127/128	8	2,097,000	1.660	1,100	1,300

*These individual strands are odd sizes not listed in the American or B. & S. Wire Tables.

611. General Requirements for Use of Conductors.

a. This article shall apply to wires, cables and cords generally, but the requirements of the other articles of this code shall be complied with as to the selection of conductors and the method of their installation and use in particular locations and classes of work.

b. No wires of size smaller than No. 14 shall be used except as permitted for fixture work and for flexible cords.

c. All splices and joints in conductors shall be made both mechanically and electrically secure without solder. The joints shall then be soldered unless made with some form of approved splicing device. All joints shall be covered with an insulation equal to that on the conductors.

d. Stranded wires, except in flexible cords, shall be soldered before being fastened under clamps or binding screws and, whether stranded or solid, when they have a conductivity greater than that of No. 8 shall be soldered into lugs for all terminal connections, except where an approved solderless terminal connector is used.

e. Wires shall be separated from contact with walls, floors, timbers or partitions through which they may pass by non-combustible non-absorbent insulating tubes, such as glass or porcelain, except at outlets where approved flexible tubing is required.

f. The bushings used shall be long enough to bush the entire length of the hole in one continuous piece, or else the hole shall first be bushed by a continuous waterproof tube. This tube may be a conductor, such as iron pipe, but in that case an insulating bushing shall be pushed into each end of it, extending far enough to keep the wire absolutely out of contact with the pipe.

g. Where not enclosed in approved conduit, raceways or armored cable, and where liable to come in contact with gas, water, or other metallic piping or other conducting material, wire shall be separated therefrom by some continuous and firmly fixed non-conductor creating a permanent separation.

h. In wet places wires shall be so placed that an air space will be left between conductors and pipes in crossing, and the former shall be run in such a way that they cannot come in contact with the pipe accidentally.

i. It is recommended that wires be run over, rather than under, pipes upon which moisture is likely to gather or which, by leaking, might cause trouble on a circuit.

j. Wires for electric light or power circuits shall not come nearer than 2 inches to any other unenclosed electric light, power or signal wire without being permanently separated therefrom by some continuous and firmly fixed non-conductor. The non-conductor used as a separator shall be in addition to the regular insulation on the wire. Where tubes are used, they shall be securely fastened at the ends to prevent movement along the wire.

k. Departure from the requirements of paragraphs g, h and i of this section may be permitted, where necessary, by the inspection department.

l. When exposed to mechanical injury wires shall be suitably protected. k. Where crossing floor timbers in cellars or rooms where they might be exposed to injury, wires shall be installed in approved conduit or armored cable or be otherwise properly guarded. Where running boards are acceptable, they shall be not less than 1/2 inch in thickness and not less than 3 inches in width; where guard strips are acceptable they shall be not less than 1/2 inch in thickness and at least as high as the insulator, and shall be placed on each side of and close to the wires.

m. Protection on side walls shall extend not less than 7 feet from the floor and shall consist of substantial boxing, retaining an air space of 1 inch around the conductors, closed at the top, the wires passing through bushed holes; or approved metal conduit or pipe of equivalent strength may be used.

n. When metal pipe is used in short runs to protect wires the insulation of each wire shall be reinforced by approved flexible tubing extending from the insulator next beyond the pipe at one end to the insulator next beyond the pipe at the other end. The two or more wires of a circuit, each with its flexible tubing, if carrying alternating currents shall, or if direct current, may be placed within the same pipe.

o. In damp places the wooden boxing may be preferable because of the precautions which would be necessary to secure proper insulation if the pipe were used. With this exception, however, iron piping is considered preferable to the wooden boxing, and its use is recommended. It is especially suitable for the protection of wires near belts, pulleys, etc.

p. When run in unfinished attics, or roof spaces wires shall be considered to be concealed, and when run in close proximity to water tanks or pipes, wires shall be considered to be exposed to moisture. In unfinished attics or roof spaces, wires shall be considered to be exposed to mechanical injury, and shall not be run on knobs on upper edge of joists, except that in inaccessible roof spaces where wires are run across joists, they may be supported on knobs on the upper edge of each joist.

q. Wires shall not be laid in plaster, cement or similar material.

r. Wires shall not be fastened by staples.

s. Wires shall not be fished for any great distance, nor where the inspector cannot satisfy himself that the requirements of this code have been complied with.

t. Twin wires shall be used only in conduits, or where flexible conductors are necessary.

u. In 3-wire (not three-phase) systems, the neutral shall be of sufficient capacity to carry the maximum current to which it may be subjected.

v. When one of the circuit wires is to be grounded, the circuit shall be so arranged that the grounded conductor is the one identified as prescribed in section 601 b of this code.

w. In alternating current systems in conduit, armored cable and metal raceways, the two or more wires of a circuit shall be placed in the same conduit, armor or raceway.

x. It is recommended that this course be pursued in the case of direct current, also, in order to obviate induction troubles if a change is made to alternating current at some later date.

y. The wiring in any building or group of buildings, including the service connections thereto, shall be so arranged as not to serve as a shunt around any street fuse or switch.

z. Conductors in raceways or on insulators shall not be installed in elevator shafts.

612. Special Requirements for Use of Flexible Cords.

a. When used where the voltage between any two conductors or from any conductor to the ground is over 300 volts, the insulation on flexible cords shall be at least 1/4 inch in thickness for all conductor sizes No. 8 or less, except in street railway property where cords Nos. 16 and 18 supplying pendant lamps may have an insulation 1/8 inch in thickness.

b. Flexible cord shall be used only for pendants, wiring of fixtures, portable lamps or motors, portable heating apparatus or other portable devices.



c. For all portable work, including those pendants which are liable to be moved about sufficiently to come in contact with surrounding objects, flexible wires and cables especially designed to withstand this severe service shall be used; provided, however, that for portable lamps or other devices which are not liable to be moved about sufficiently to cause abrasion of the insulation, approved flexible cord of Type C may be used.

d. When necessary to prevent portable lamps from coming into contact with inflammable materials, or to protect them from breakage, their flexible cord leads shall be equipped with handle, socket and substantial guard, the guard being securely attached to socket or handle.

e. Unless provided with approved metal armor, flexible cords shall not be used in show windows or in show cases, except that approved portable cord may be used for the purpose of supplying current to portable lamps and other devices for exhibition purposes, and flexible cord may be used for chain fixtures.

f. Flexible cords shall be protected by approved insulating bushings where they enter sockets.

g. Flexible cords shall be so connected to all fittings that the strain will be taken from the joints and binding screws.

h. Flexible cords shall, where passing through covers of outlet boxes, be protected by approved bushings especially designed for this purpose; or the cover shall be provided with a smooth, well-rounded surface on which the cord will bear. So-called hard rubber or composition bushings shall not be used.

613. Special Requirements For Use of Conductors in Central and Sub-Stations; Including Motor, Transformer and Storage Battery Rooms, etc.

a. Wires shall be exposed to view and supported on approved non-combustible, non-absorptive insulators or placed in approved metal conduit, tile or other fireproof ducts. Conductors installed in conduit or ducts where exposed to moisture shall be lead sheathed and the sheathing shall be grounded. Except for low potential systems the insulation of the several conductors where leaving the metal sheath of cables shall be thoroughly protected from moisture and mechanical injury by means of a pothead or some equivalent method.

See also article 50.

b. Wires not in conduit shall be kept so rigidly in place that they cannot come in contact. Where they pass through floors or fire walls they shall be carried through individual openings in non-combustible, non-absorptive insulating tubes or their equivalent and not through a common open space.

c. Where conductors are closely grouped as on switchboards, in wire towers, cableways, etc., the conductors shall each have a substantial flameproof outer covering. Flameproofing shall be stripped back on all conductors a sufficient distance from the terminals to give the necessary insulation for the voltage of the circuit on which the conductor is used.

ARTICLE 7. OUTLET BOXES AND CABINETS

701. Outlet Fittings.

a. Outlet boxes and plates, switch, junction and pull boxes and metal cabinets shall be well galvanized, enameled or otherwise properly coated, inside and out, to prevent oxidation; provided, however, that hardwood may be used for cabinets housing devices of electric railway systems, or of open or concealed work, or wooden raceway.

It is recommended that the protective coating be of conductive material such as tin or zinc, in order to secure better electrical contact.

b. Unused openings in outlet fittings or cabinets shall be effectively closed by metal plugs or plates, affording protection substantially equivalent to that of the wall of the fitting.

c. Openings in outlet fittings or cabinets shall be equipped, either separately or as a part of the fitting, with couplings or bushings which will serve to secure the conduit, raceway or armored cable to the fitting and at the same time protect the wires from abrasion. Where a hardwood cabinet is used with open work or concealed work, each opening shall be equipped with a non-combustible, non-absorptive insulating bushing which shall fit securely in the opening and be so closed by the wire and tape, if necessary, as to be dust-tight. In dry places approved flexible tubing may be employed as an insulating bushing if it extends from the last insulating support and is firmly secured in place.

d. Covers of outlet fittings through which flexible cords or duplex wire pendants pass shall be provided with approved bushings, or shall have smooth, well rounded holes upon which the cord or wire may bear. Where wires, other than flexible cord or duplex wire, pass through a metal cover, there shall be provided a separate hole for each wire, said hole being equipped with a non-combustible, non-absorptive insulating bushing.

e. Outlet fittings, and junction or pull boxes not over 150 cubic inches in size, shall be composed of pressed steel not less than 0.078 inch (No. 14 U. S. sheet metal gage) in thickness, or of cast metal having a wall thickness not less than $\frac{1}{8}$ inch.

f. Junction or pull boxes of over 150 cubic inches in size shall be composed of metal and shall conform to the requirements for cabinets and cutout boxes, except that the covers may consist of single flat sheets secured to the box proper by screws or bolts instead of hinges.

Boxes having covers of this form are for use only for inclosing joints in wires or to facilitate the drawing in of wires or cables. They are not intended to inclose switches, cutouts or other control devices.

g. Outlet boxes intended for use where gas outlets are present shall be so designed that they may be securely fastened to the gas pipes in an approved manner.

h. A fixture stud which is not an integral part of the outlet box shall be composed of malleable iron or other approved material.

i. Switch and outlet boxes shall be so designed that they can be securely fastened in place independently of the support furnished by the conduit; provided, however, that approved boxes having threaded connection to exposed conduit may be supported by the conduit itself if the latter is firmly secured in place.

j. Switch and receptacle boxes shall completely enclose the devices on sides and back, and shall provide a substantial support for them. The screws supporting the box shall not be used for the attachment of the device contained therein. Floor outlet boxes shall be so designed as to protect receptacles and attachment plugs from mechanical injury and moisture.

k. Metal covers of outlet boxes shall be of thickness equal to that of the wall of the box, or shall be lined with firmly attached insulating material not less than $\frac{1}{8}$ inch in thickness. Covers of porcelain or other approved material may be used if of such form and thickness as to afford the requisite protection and strength.

l. Flush switch and receptacle plates shall be not less than .04 inch in thickness.

m. At each outlet of conduit, metal raceway, armored cable or concealed work an approved box or plate shall be employed. In completed installations, the box or plate shall be provided with a cover, unless a fixture canopy is present.

n. At other than fixture outlets, an approved terminal fitting having a separate, bushed hole for each wire shall be provided for the end of the conduit, through which fitting the wires shall pass without splice, joint or tap.

o. In buildings already constructed, where conditions are such that neither box nor plate can be installed, these fittings may be omitted by permission of the inspection department, provided the conduit or armored cable is properly bushed and secured in place.

p. Junction boxes shall be so installed as to be accessible without removing any part of the building except as provided in section 302, paragraph f of this code.

An attic which has sufficient headroom but which is reached only by a portable ladder and permanent hatch, is considered permanently accessible.

q. Outlet boxes or plates, switch boxes and cabinets shall be so installed in walls or ceilings composed of plaster on wooden joists or studs that the front edge of the fitting will not set back of the finished surface of the plaster more than $\frac{1}{4}$ inch. On wooden walls or ceilings the front edges of the fitting shall be flush with the finished surface, or project therefrom. A plaster surface which is broken or incomplete shall be repaired, so that there will be no gaps or open spaces at the edge of the fitting.

These requirements do not apply to walls or ceilings composed of concrete, tile or other non-combustible material.

r. In making a surface extension from an existing outlet of concealed conduit or armored cable, a box, extension ring or blank cover shall be mounted over the original box and electrically and mechanically secured to it. The extension shall then be connected to this box in the manner prescribed for the method of wiring employed in making the extension.

702. Cabinets and Cutout Boxes.

a. Cabinets and cutout boxes intended for outdoor use shall be of weatherproof type.

b. Cabinets and cutout boxes which contain devices or apparatus connected within the cabinet or box to the wires of more than four circuits, including branch circuits, meter loops, sub-feeder circuits, power circuits from lighting panels and similar circuits, but not including the supply circuit or a continuation thereof, shall have back wiring spaces or one or more side wiring spaces, side gutters or wiring compartments unless the wires leave the cabinet or cutout box directly opposite their terminal connections.

c. The design and construction of cabinets and cutout boxes shall be such as to secure ample strength and rigidity.

d. The spacing within cabinets and cutout boxes shall be sufficient to provide ample room for the distribution of wires and cables placed in them, and for a separation between metal parts of cabinets or cutout boxes and current carrying parts of devices and apparatus mounted within them as follows:

1. There shall be an air space of at least $\frac{1}{2}$ inch, except at points of support, between the base of the device and the wall of any metal cabinet or cutout box on which the device is mounted.

2. There shall be an air space of at least 1 inch between any live metal part (including live metal parts of enclosed fuses) and the door, unless the door is lined with an approved insulating material or is of a thickness of at least that of No. 12 U. S. gauge metal, when the air space shall be not less than $\frac{1}{2}$ inch.

3. There shall be as space of at least 2 inches between open link fuses and metal lined walls or metal, metal lined or glass paneled doors.

4. Except as noted above, there must be an air space of at least $\frac{1}{2}$ inch between the walls, back, gutter partition, if of metal, or door of any cabinet or cutout box and the nearest exposed current-carrying part of devices mounted within the cabinet where the potentials do not exceed 250 volts. This spacing shall be increased to at least 1 inch where the potentials exceed 250 volts.

e. Cabinets and cutout boxes shall be deep enough to allow of the closing of the doors when 30 ampere branch circuit panel board switches are in any position, or when combination cutout switches are in any position, or when other single throw switches are opened as far as their construction will permit.

f. Side wiring spaces, side gutters or side wiring compartments of cabinets shall be rendered tight enclosures by means of covers, barriers or partitions extending from the bases of the devices contained in the cabinet to the door, frame or sides of the cabinet; provided, however, that where the enclosure contains only those wires or cables which are led from the cabinet at points directly opposite their terminal connections to devices within the cabinet, such covers, barriers or partitions may be omitted. Partially enclosed back wiring spaces shall be provided with covers to complete the enclosure.

g. Wooden or composition cabinets, whether for flush or surface mounting, shall be of rigid and substantial design. Doors shall fit closely. The requirements for spacings, barriers and other details of construction, given elsewhere in this section, shall be followed, so far as they apply. Wooden cabinets shall be composed of well seasoned material, at least $\frac{1}{2}$ inch in thickness thoroughly filled and painted. They shall be lined throughout with a non-combustible material such as $\frac{1}{2}$ inch rigid asbestos board firmly secured in place. Linings of slate, marble or approved composition shall be at least $\frac{1}{4}$ inch in thickness. Sheet metal lining shall be at least .063 inch in thickness (No. 16 U. S. sheet metal gage).

h. Composition cabinets shall conform to the requirements for wooden cabinets, and shall be submitted for approval prior to installation.

ARTICLE 8. AUTOMATIC PROTECTION OF CIRCUITS AND APPLIANCES: Cutout Bases, Fuses, Circuit Breakers; Protection of Wires, Circuits, Motors; Ground Detectors, Other Appliances.

801. Cutout Bases.

a. The requirements of this article shall not apply to rosettes, attachment plugs, or protective devices for signal systems. The spacings of link fuse cutout bases shall be at least as great as those given in the following table, which applies only to plain, open fuse blocks, mounted on slate, marble or composition bases. If the copper fuse tips overhang the edges of the fuse-block terminals, the spacings shall be measured between the nearest edges of the tips.



Ampere Capacity.	Minimum Separation of Nearest Metal Parts Opposite Polarity	Minimum Break Distance
Not over 125 volts.		
0-10	$\frac{1}{4}$ inch	$\frac{1}{4}$ inch
11-100	1 "	$\frac{1}{4}$ "
101-300	1 "	$\frac{1}{4}$ "
301-1000	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "
Not over 250 volts.		
0-10	$1\frac{1}{4}$ inch	$1\frac{1}{4}$ inch
11-100	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "
101-300	2 "	$1\frac{1}{2}$ "
301-1000	$2\frac{1}{2}$ "	2 "

b. A space shall be maintained between the fuse terminals of link fuses of the same polarity of at least $\frac{1}{4}$ inch for voltages up to 125 and of at least $\frac{1}{4}$ inch for voltages from 126 to 250. This is the minimum distance allowable, and greater separation shall be provided when practicable.

c. For 3-wire systems link fuse cutouts shall have the break-distance required for circuits of the potential of the outside wires, except that in 125-250-volt systems with grounded neutral the cutouts in 2-wire, 125-volt branch circuits may have the spacings specified for not over 125 volts.

d. Except for sealable service and meter cutouts the fuse terminals of enclosed fuse cutout bases (plug and cartridge types) shall be of either the Edison plug, spring clip or knife blade type, to take the corresponding standard enclosed fuses. They shall be secured to the base by two screws, or the equivalent, so as to prevent them from turning, and shall be so made as to secure a thoroughly good contact with the fuse.

e. End stops shall be provided to insure the proper location of the cartridge fuse in the cutout base.

f. Cutout bases for enclosed fuses shall be classified as regards both current and voltage as given in the following table, and shall be so designed that the bases of one class cannot be used with fuses of another class rated for a higher current or voltage.

STANDARD PLUG OR CARTRIDGE CUTOUTS.

Not over 250 volts.	Not over 600 volts.
0-30 amperes	0-30 amperes
31-60 "	31-60 "
61-100 "	61-100 "
101-200 "	101-200 "
201-400 "	201-400 "
401-600 "	401-600 "

SEALABLE SERVICE AND METER CUTOUTS.

Not over 250 volts.	Not over 600 volts.
0-30 amperes	0-30 amperes
31-60 "	31-60 "
61-100 "	61-100 "
101-200 "	101-200 "

802. Link Fuses.

a. Contact surfaces or tips of link fuses shall be of copper or aluminum, having good electrical connections with the fusible part of the strip.

b. Link fuses shall be stamped with 80% of the maximum current which they can carry indefinitely, thus allowing about 25% overload before the fuse melts.

803. Enclosed Fuses.

a. The requirements of paragraphs c to g inclusive, of this section, do not apply to fuses for rosettes, attachment plugs, car-lighting cutouts and protective devices for signal systems.

b. The casings of enclosed fuses shall be sufficiently tight so that lint and dust cannot collect around the fusible link and become ignited when the fuse is blown. For non-renewable fuses the fusible wire shall be attached to the terminals in such a way as to make it difficult for it to be replaced when melted.

c. Enclosed fuses shall be classified to correspond with the different classes of cutouts, and shall be so designed that it will be impossible to put any fuse of a given class into a cutout which is designed for a current or voltage lower than that of the class to which the fuse belongs.

d. Enclosed fuses shall be marked with the words "N. E. Code Std." All fuses shall be marked with the ampere capacity. On ferrule contact fuses this marking shall be on the tube or ferrules, and on knife blade fuses on the tubes or caps. In addition to the above marking each cartridge enclosed fuse shall be provided with a paper label, red for 800-volt fuses, navy blue for 250-volt fuses of 15 amperes or less capacity and green for 250-volt fuses of over 15 amperes capacity. The label for cartridge fuses shall bear the following: the name or trademark of the manufacturer and the voltage for which the fuse is designed.

e. Plug fuses of 15 amperes capacity or less shall be distinguished from those of larger capacity as follows: by an hexagonal opening in the cap through which the mica or similar window shows; or by an hexagonal shaped recess in the top of fuses having porcelain or moulded composition tops, and when labels are used with such plug fuses the labels shall also be hexagonal in shape and fill the recess; or on plugs having solid metal caps, by an hexagonal impression either raised or lowered on the caps.

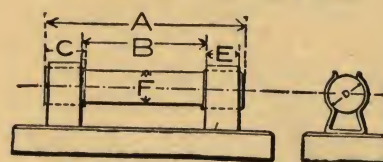
f. The fuse terminals shall be sufficiently heavy to insure mechanical strength and rigidity. The styles of terminals, except for use in sealable service and meter cutouts, shall be as follows:

Not over 250 volts.	
0-30 Amps.	A. Cartridge fuse (ferrule contact).
31-60 "	B. Approved plugs or cartridge fuses in approved casings for Edison plug cutouts not exceeding 125 volts, but including any circuit of a three-wire 125-250-volt system with grounded neutral.
61-100 "	Cartridge fuse (ferrule contact) for use also in approved casings for large size Edison plug type 250-volt cutouts.
101-200 "	
201-400 "	Cartridge fuse (knife blade contact).
401-600 "	
Not over 600 volts.	
0-30 Amps.	Cartridge fuse (ferrule contact).
31-60 "	
61-100 "	
101-200 "	Cartridge fuse (knife blade contact).
201-400 "	
401-600 "	

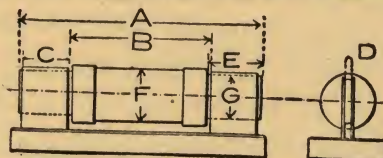
Cartridge enclosed fuses and corresponding cutout bases, except for sealable service and meter cutouts shall conform to the dimensions given in the table attached.

TABLE OF DIMENSIONS OF THE NATIONAL ELECTRICAL CODE STANDARD

CARTRIDGE ENCLOSED FUSE



Form 1. Cartridge Fuse-Ferrule Contact



Form 2. Cartridge Fuse-Knife Blade Contact

Voltage Not Over 250

Form 1

Rated Capacity Amperes	Length Over Term. Inches	Distance Between Contact Clips Inches	Width of Contact Clips Inches	Diam. of Ferrules or Thick. of Blades Inches	Min. Lgth. of Ferrules of Term. Outside Tube, In.	Diam. Tube Inches	Width Term. Blades Inches
	A	B	C	D	E	F	G
0-30	2	1	$\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	...
31-60	3	$1\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	...

Form 2

Rated Capacity Amperes	Length Over Term. Inches	Distance Between Contact Clips Inches	Width of Contact Clips Inches	Diam. of Ferrules or Thick. of Blades Inches	Min. Lgth. of Ferrules of Term. Outside Tube, In.	Diam. Tube Inches	Width Term. Blades Inches
	A	B	C	D	E	F	G
61-100	$5\frac{1}{2}$	4	$\frac{3}{4}$	$\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$
101-200	$7\frac{1}{2}$	$4\frac{1}{2}$	$1\frac{1}{4}$	$\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
201-400	$8\frac{1}{2}$	5	$1\frac{1}{2}$	$\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$
401-600	$10\frac{1}{2}$	6	$2\frac{1}{4}$	$\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{1}{2}$	2

Voltage Not Over 600

Form 1

Rated Capacity Amperes	Length Over Term. Inches	Distance Between Contact Clips Inches	Width of Contact Clips Inches	Diam. of Ferrules or Thick. of Blades Inches	Min. Lgth. of Ferrules of Term. Outside Tube, In.	Diam. Tube Inches	Width Term. Blades Inches
	A	B	C	D	E	F	G
0-30	$5\frac{1}{2}$	$4\frac{1}{4}$	$\frac{3}{4}$	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	...
31-60	$5\frac{1}{2}$	$4\frac{1}{4}$	$\frac{3}{4}$	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	...

Form 2

Rated Capacity Amperes	Length Over Term. Inches	Distance Between Contact Clips Inches	Width of Contact Clips Inches	Diam. of Ferrules or Thick. of Blades Inches	Min. Lgth. of Ferrules of Term. Outside Tube, In.	Diam. Tube Inches	Width Term. Blades Inches
	A	B	C	D	E	F	G
61-100	$7\frac{1}{2}$	6	$\frac{3}{4}$	$\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$
101-200	$9\frac{1}{2}$	7	$1\frac{1}{4}$	$\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
201-400	$11\frac{1}{2}$	8	$1\frac{1}{2}$	$\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$
401-600	$13\frac{1}{2}$	9	$2\frac{1}{4}$	$\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{1}{2}$	2

804. Circuit Breakers.

a. Automatic overload circuit breakers shall be substantial in construction, and shall have ample metal for stiffness. The contact parts shall be arranged so that thoroughly good bearings are obtained. All breakers shall be provided with easily accessible means of tripping them by hand without injury to the operator.

805. General; Fuses and Circuit Breakers.

a. Fuses or circuit breakers shall be provided on constant potential circuits to protect all ungrounded wires.

For the use of fuses on branch circuits see section 807.

b. A fuse or circuit breaker shall be placed at every point where a change is made in the size of wire, unless the fuse or circuit breaker in the larger wire will protect the smaller.

For carrying capacities of conductors, see section 610.

c. A fuse or circuit breaker shall not be placed in any permanently grounded wire, except as called for in section 807 of this code.

d. Fuses and circuit breakers shall be in plain sight, or enclosed in an approved cabinet or cutout box, and readily accessible. Fuses shall not be placed in the canopies or shells of fixtures.

e. Fuses and circuit breakers shall not be placed where exposed to mechanical injury or in the immediate vicinity of easily ignitable stuff or where exposed to inflammable gases or dust, or flyings of combustible material. Where the occupancy of the building is such that fuses and circuit breakers cannot be located so as not to be exposed as above, they shall be mounted in cutout boxes or cabinets, except oil switches, circuit-breakers and similar devices which have approved casings.

f. Fuses and circuit breakers, when located where exposed to moisture, as in basements and similar places, shall be mounted in approved cutout boxes or cabinets, and when located in wet places or outside buildings shall be mounted in approved weatherproof cutout boxes or cabinets.

g. Except as provided in sections 808 and 809 of this code the rated capacity of fuses shall not exceed the allowable carrying capacity of the wire as given in section 610 of this code; and circuit-breakers shall not be set more than 30 per cent above the allowable carrying capacity of the wire unless a fusible cutout is also installed on the circuit.

h. For the protection of wires having safe carrying capacities exceeding the rated capacity of the largest approved enclosed type fuses, approved enclosed fuses arranged in multiple may be used, provided as few fuses as possible are used and the fuses are of equal capacity and provided the cutout terminals are mounted on a single continuous pair of substantial bus bars. The total capacity of the fuses shall not exceed the safe carrying capacity of the wires. This paragraph shall not apply to motor circuits.

i. Fixture wires or flexible cords of No. 16 or No. 18 gage shall be considered as protected by 15 ampere fuses.

j. Link fuses may be used only when mounted on approved bases which, except on switchboards, shall be placed in approved cutout boxes or cabinets. A space of at least 2 inches shall be provided between the open-link fuses and metal, or metal lined walls or metal, metal lined or glass paneled doors of cabinets or cutout boxes.

k. Fused rosettes shall not be used.

l. An automatic circuit breaker, except as provided for generators in article 1002 of this code, when installed without other automatic overload protective devices, shall have one pole in each ungrounded conductor.

m. For all automatic circuit breakers the number of overload trip coils shall not be less than shown below:



SYSTEM		NUMBER OF OVERLOAD TRIP COILS	
4 wire, 3 phase A.C.	3	(1 in each phase)	
" " " " " A.C.	2	(1 in each phase in ungrounded wire)	
" " " " " A.C.	2	(1 in each of 2 ungrounded wires)	
" " " " " A.C.	2	(1 in each outside wire)	
" " " " " A.C.	2	(1 in each outside wire)	
" " " " " D.C.	2	(1 in each outside wire)	
" " " " " A.C. or D.	1	(1 in the ungrounded wire)	
C. ungrounded			
2 wire, A. C. or D. C.	1		
grounded			

n. Paragraphs 1. and m. of this section shall not be considered as prohibiting the use of two single-pole circuit breakers for the protection of ungrounded two-wire circuits.

806. At Services.

a. Fuses or circuit breakers shall be placed in all ungrounded service wires, either overhead or underground, in the nearest readily accessible place to the point where they enter the building, and arranged to cut off the current from all circuits and devices in the building other than the service switch and, under conditions specified below, the meter; except, however, that service fuses may be located at outer end of service conduit.

b. When the service fuses are locked or sealed, or are located at the outer end of the service conduit, duplicate main fuses or branch fuses connected on the load side of the meter and enclosed in an approved casing or cabinet, so as to be readily accessible to the occupant of the building, shall be provided.

c. Where service switch, service fuses and meter are combined in an approved self-contained device or compact combination of such devices having no exposed wiring or live parts, the potential coils of the meter may be connected on the supply side of the service cutoff. Except when such devices are used or the service fuses are located at the outer end of the service conduit, the service switch shall be arranged to cut off current from the service fuses.

d. Except when mounted on switchboards under competent supervision, the service fuses shall be enclosed so that live parts will not be exposed to accidental contact.

e. In risks having private plants the yard wires running from building to building shall not be considered as service wires, so that fuses or circuit breakers will not be required where the wires enter buildings, provided the next fuse back is small enough to properly protect the wires inside the building in question.

807. Fuses for Branch Circuits.

a. For the purpose of this section the terms "branch circuits" and "outlets" are defined as follows:—"Branch Circuit" is that portion of a wiring system extending beyond the final set of fuses or circuit breakers protecting it, and at points on which current is taken to supply fixtures, lamps, heaters, motors and current consuming devices generally; such points are designated as "outlets."

b. By permission of the inspection department, on systems having a grounded neutral or having one side grounded, and where the grounded conductor is identified and properly connected, 2-wire branch circuits may be protected by a fuse in the ungrounded wire, no fuse being placed in the grounded wire. Otherwise, 2-wire branch circuits shall be protected by a fuse in each wire.

c. Three-wire branch circuits may be run from direct current or single phase alternating current systems having a grounded neutral, in which case the neutrals of the branch circuits shall not be interconnected except at the center of distribution.

d. Branch circuits in general, and except as described below, shall be protected by fuses of no greater rated capacity than

15 amperes at 125 volts or less
10 amperes at 126 to 250 volts

e. Fixture wire or flexible cord of No. 18 or No. 16 gauge shall be considered as properly protected by 15 ampere fuses.

Receptacles for attachment plugs (convenience outlets) are strongly recommended in order to facilitate the use of electrical appliances which, otherwise, must be connected to sockets designed primarily only as lamp holders.

f. On a 2-wire branch circuit and on either side of a 3-wire branch circuit, the number of outlets shall not exceed twelve (12) except by permission of the inspection department.

g. Branch circuits supplying only sockets or receptacles of the mogul type shall have the wires protected by fuses having a rated capacity not greater than

40 amperes at 125 volts or less
20 amperes at 126 to 250 volts

h. If protected by 40 or 20 ampere fuses as above, wire not smaller than No. 12 shall be used for wiring fixtures with mogul sockets and receptacles and may also be used for taps not over 18 inches long from the circuit wires to the points of suspension of the fixtures.

i. The number of mogul sockets on a 2-wire branch circuit and on either side of a 3-wire branch circuit shall not exceed eight (8) except by permission of the inspection department.

808. Protection of Motor Circuits.

a. Conductors carrying the current of only one motor shall have a carrying capacity of at least 110% of the name plate current rating of the motor, the actual size to be determined by the rating of the fuses or the setting of the circuit breaker or overload relay protecting them.

b. Except as provided in the following paragraph, each ungrounded conductor carrying the current of only one motor or group of motors shall be protected in accordance with the general requirements for the protection of conductors; that is, the rated capacity of the fuses shall not exceed the carrying capacity of the conductors and circuit breakers shall not be set more than 30% above the carrying capacity of the conductors as given in section 610 of this code.

c. Where rubber-covered or varnished cloth insulated wire is used in a branch circuit carrying the current of only one alternating current motor of a type having large starting current and this circuit is protected by fuses it may be protected in accordance with column C of Table I of section 610 of this code, but in no case shall a rubber-covered or varnished cloth insulated conductor in a branch circuit carrying the current of only one motor have a carrying capacity in accordance with columns A and B respectively of Table I of the aforesaid section 610 be less than 110% of the name plate current rating of the motor.

d. Automatic overload protective devices may be omitted at the point where conductors carrying the current of only one motor are connected to the mains, provided their current carrying capacity is at least one-third that of the mains, the length of the conductors between the mains and the motor protective devices is not greater than 15 feet and they are suitably protected from mechanical injury.

e. Where the motor running protective device is shunted during the starting period the portion of the motor branch circuit between the motor and its running protective device shall be considered to be sufficiently protected during the starting period by the next overload protective device back on the line if the rating of this fuse or the setting of this circuit breaker is not over 300% of the motor name plate current rating.

To provide for the large starting current of certain types of alternating current motors without overfusing the conductors, wires considerably larger than 110% of the motor name plate current rating may be necessary in that part of the circuit supplying one motor which is between the motor running protective device and the mains.

In the great majority of cases where alternating current motors requiring large starting currents are started by means of autotransformer starters, the necessary current carrying capacity of conductors in that part of the circuit supplying one motor which is between the motor running protective device and the mains will not exceed the following percentages of the name plate current rating of the motors.

RATED FULL LOAD CURRENT	PERCENTAGE
0 to 30 amperes.....	250
Above 30 ".....	200

In nearly all cases where alternating current motors of the above type are started without autotransformer starters, the necessary current carrying capacity of conductors in that part of the circuit supplying one motor which is between the motor running protective device and the mains will not exceed 300% of the name plate current rating of the motor.

To provide for the peak loads which are encountered in certain classes of service, such as operating valves, raising or lowering rolls, rolling tables, hoists, elevators, pumps, etc., without overfusing the conductors, motors will sometimes require cables, considerably larger than 110% of the motor name plate current rating. In the majority of cases the current carrying capacity of conductors complying with the rule will not exceed the percentages of the name plate current ratings of the motors given in the following tables:—

Classification of Service	Percentage of name plate current rating				
	5 minute	10 to 15 minute	30 & 60 minute	2 hour	Continuous
Operating valves raising or lowering rolls.....	110	120	150	200	250
Rolling tables.....	110	120	135	180	200
Hoists, rolls, ore and coal handling machines.....	110	115	120	150	170
Freight and passenger elevators, shop cranes, tool heads, pumps, etc....	110	110	110	120	140

f. Alternating current motors operating freight or passenger elevators or cranes that are dependent on phase relation for the direction of rotation shall be protected by approved automatic circuit breakers (or reverse phase relays) operative in the event of any phase reversal that would cause a reverse motor rotation, or in the event of the motor being connected to the line single phase.

809. Protection of Motors.

a. Each motor shall be protected by an automatic overload protective device (fuse, thermal cutoff, overload relay or circuit breaker), except as provided in paragraph c of section 3006 of this code. If fuses are used one fuse shall be provided in each ungrounded conductor. If a circuit breaker is used, one pole shall be provided in each ungrounded conductor and the circuit breaker shall be so designed that its operation will open all of the ungrounded conductors simultaneously, except that for direct current and single phase alternating current motors on ungrounded circuits, one single pole breaker may be used in each conductor or a single pole circuit breaker in one conductor and a fuse in the other. The number of overload trip coils, relays or thermal cutoffs shall not be less than shown in the following table:—

MOTOR	NUMBER OF OVERLOAD TRIP COILS, RELAYS OR THERMAL CUTOFFS	
	2-wire A.C.	3-wire A.C.
4-wire, 2-phase A.C.	2	1
" " " " " A.C.	2	1
" " " " " A.C.	2	1
" " " " " A.C.	2	1
" " " " " A.C. or D.C. Ungrounded.	1	1
" " " " " D.C. Grounded.	1	1

b. Motors may be grouped under the protection of a single set of fuses provided the rated capacity of the fuses does not exceed 15 amperes and the total wattage of the circuit does not exceed 1200 or provided each motor is protected by thermal cutoffs. The number and size of the motors grouped with thermal cutoff protection need be limited only by the maximum size of the fuses with which the thermal cutoffs can be safely used and each thermal cutoff shall be marked to indicate the size of this fuse.

c. Fuses shall not be required in addition to circuit breakers (a) on main switchboards, (b) where otherwise subject to competent supervision, (c) where next back on the line there are fuses rated on a circuit breaker set at not over 300% of the motor name plate rating, (d) for circuits having a maximum capacity greater than that for which approved enclosed fuses are rated.

d. If an alternating current starter when in the running position opens all of the ungrounded conductors of the circuit automatically under overload, and is equipped with the proper number of overload trip coils as given above it may also serve as a circuit breaker. If the overload release device of a direct current starter is inoperative during the process of starting the motor a separate circuit breaker or set of fuses shall be provided.

e. Each continuous rated motor of over 2 horse power used for constant load duty shall be protected by running fuses, thermal cutoffs, relays or a circuit breaker in accordance with the following:

1. If fuses or thermal cutoffs are used their rated capacity shall not exceed 125% of the name plate current rating of the motor, except that when no fuses or thermal cutoffs of the required capacity exist, those of the next higher standard rating may be used.

2. If a circuit breaker is used it shall have a continuous current capacity of at least 110% of the name plate current rating of the motor.

3. If an overload relay is used, its rated capacity shall not be exceeded when the motor it protects is carrying 110% of its continuous current capacity as indicated on its name plate.

4. If the circuit breaker or overload relay is of the time limit type it shall have a setting of not over 125%, and if of the instantaneous type a setting of not over 160% of the name plate current rating of the motor.

To comply with the above rule in the case of a squirrel cage or similar type motor having a large starting current it will be necessary to use a motor starter or double throw switch so designed that the protective device will be shunted or cut out of service during the starting period, unless a time limit circuit breaker or similar device is used which will prevent the opening of the circuit during the starting period.

f. Where the motor running protective device is shunted during the starting period the motor and the portion of the motor branch circuit between the motor and its running protective device shall be considered sufficiently protected during the starting period by the next overload protective device back on the line if the rating of this fuse or the setting of this circuit breaker is not over 300% of the motor name plate current rating.



g. A switch used to shunt the motor protective device during the starting period shall be of such type that it will be held in off and running positions but cannot be left in the starting position without the proper running overload protective devices in circuit.

h. Continuous rated motors of 2 horse power or less shall be considered sufficiently protected by the fuses or circuit breakers protecting the conductors of the motor circuits provided in section 808 of this code.

i. Motors of other than continuous rating or used on other than continuous load duty shall be considered as being sufficiently protected by the fuses or circuit breakers used to protect the conductors of the motor circuits.

810. Protection of Generators.

See section 1002.

811. Protection of Heating Appliances.

a. Heating appliances each of 6 amperes or 660 watts or less, may be used on branch lighting circuits; heating appliances each of 10 amperes or 1200 watts or less, may be grouped on a special circuit protected by fuses having a rated capacity not greater than 15 amperes. Each complete heating appliance, whether containing one or more heating elements, which is of more than 10 amperes or 1200 watts total capacity, shall be supplied by a separate branch circuit.

b. Subdivided circuits of a heater need not be separately fused.

812. Protection of Theatre Footlights and Border Lights.

a. Theatre footlights and border lights shall be so wired that the number of outlets and the lamps connected to them shall in no case be such as to place more than 15 amperes on a branch circuit fuse.

813. Protection of Signs and Outline Lighting.

a. Circuits shall be so arranged that the number of outlets and the lamps connected to them shall in no case be such as to place more than 15 amperes on the branch circuit fuse.

814. Protection of Switchboard Instruments.

a. For the protection of instruments and pilot lights on switchboards, approved types of fuses not over two amperes capacity and of designs other than N. E. Code Std. may be used.

It is recommended, however, that N. E. Code Standard enclosed fuses be employed.

815. Protection of Feeders at Supply Stations.

a. Each constant potential circuit entering or leaving a supply station, except grounded neutral conductors of three wire systems, shall be protected from excessive current by an approved automatic overload circuit breaker or by an equivalent device of approved design. Such protective devices shall be located as near as practicable to point where conductors enter or leave the building. For outgoing circuits not connected with other sources of power, however, the protective devices may be placed on the supply side of transformers or similar devices.

816. Ground Detectors.

a. Each distribution system originating in a station under attendance shall be provided with a reliable ground detector unless permanently grounded in accordance with article 9 of this code.

ARTICLE 9. GROUNDING.

901. General.

a. Where low potential circuits, arresters, equipment, conduit, armored cable, metal raceways and the like are grounded in accordance with this article, they shall be so arranged that under normal conditions of service there will be no appreciable passage of current over the grounding conductor.

b. Artificial grounds, such as buried plates, driven pipes or driven rods, shall be embedded below permanent moisture level, where practicable. Each ground shall present not less than 2 square feet of surface to exterior soil. Ground plates of copper shall be at least .06 inch in thickness. Ground plates of iron shall be at least ¼ inch in thickness. Ground pipes of iron or steel shall be not less than ¾ inch external diameter. Other approved ground rods shall be not less than ½ inch in diameter.

It is recommended that artificial grounds be located where the ground water level is nearest to the surface.

Additional area will generally be necessary, to meet the requirement of paragraph d of this section.

c. Where a system grounding wire is employed, it shall be effectually grounded at intervals which will satisfy the requirements as to current carrying capacity and resistance prescribed in this article.

d. The combined resistances of the grounding wire and the connection with the ground shall not exceed 3 ohms for water pipe connections nor 25 ohms for buried or driven grounds. Where it is impracticable to obtain with one ground artificial ground resistance as low as 25 ohms, this requirement shall be waived, and two artificial grounds, at least 6 feet apart and with combined area of not less than 4 square feet, shall be provided.

902. Distribution Systems.

a. Two-wire direct current systems shall be grounded as provided herein, if fed from overhead circuits and the voltage of the system does not exceed 300 volts.

It is recommended that 2-wire direct current systems be grounded if a neutral point can be established and if the maximum difference of potential between the neutral point and any other point on the circuit does not exceed 300 volts.

It is recommended that 2-wire direct current systems be not grounded if the potential to ground of either conductor exceeds 300 volts.

b. Three-wire direct current systems shall be grounded as provided in this article and at the neutral, at one or more supply stations but not at individual services.

c. Alternating current systems shall be grounded as provided in this article, if the maximum difference of potential between the grounded point and any other point on the circuit does not exceed 150 volts. Electric furnace circuits need not be grounded.

It is recommended that such systems also be grounded as provided herein, if the difference of potential exceeds 150 volts but does not exceed 300 volts.

d. The connection with the ground on alternating current systems shall be made at each service before being connected to the line; provided, however, that by permission of the inspection department the connection may be made on or near the transformer, or transformers, or by connection to a system ground wire.

e. For alternating current systems, the point to be grounded shall be selected as follows:

Single phase, 2-wire: on either conductor, and at that point of the system which brings about the lowest voltage from ground of unguarded current-carrying parts of connected devices and also permit of most convenient grounding.

Single phase, 3-wire: on neutral conductor.

Two phase:— Three phase:—

At that point of the system which brings about the lowest voltage from ground of unguarded current-carrying parts of connected devices and also permits of most convenient grounding.

f. Where only one phase of a 2-phase or 3-phase secondary system is employed for lighting, that phase shall be grounded, and at the neutral conductor if one is used.

g. Where transformers supply a common set of mains, such fuses as are installed shall be so placed as not to leave any portion of the secondary without ground protection after they have been blown.

h. The grounded conductor of an interior wiring system shall have but one grounding connection within the building.

903. Lightning Arresters and Ground Detectors.

a. The ground connection shall be made at such a point that the grounding conductor will be as short and straight as practicable.

904. Equipment and Metal Raceways.

a. The point of attachment of the grounding conductor to generators, motors, transformers, conduit, armored cable, metal raceway and the like shall, if practicable, be readily accessible.

b. The point of attachment of the grounding conductor to conduit, armored cable and metal raceways shall be as near as practicable to the point where the conductors in the equipment receive their supply.

c. Where the service conduit is grounded, its grounding conductor shall be run from it directly to the ground, no portion of the house conduit being used as a part of the grounding conductor.

905. Grounding Conductors.

a. The grounding conductor shall invariably be composed of copper. Where practicable, it shall be without joint or splice.

b. An automatic cutout shall not be placed in a grounding conductor or its connections, except in grounding conductors for equipment where its operation will disconnect from the supply conductors all leads contained in the equipment.

c. The insulation and installation of the grounding wire shall conform to all requirements of this code applying to wires of the voltage of the circuit to which the grounding wire is attached.

d. All grounding wires shall be protected from mechanical injury. In the case of a lightning arrester grounding wire the protection shall be composed of non-magnetic material, unless the grounding conductor is electrically connected to both ends of the protective covering.

e. Where a secondary system is grounded at the service, the equipment, conduit, armored cable, metal raceway and the like may, with the permission of the inspection department, be connected to the circuit grounding conductor, but otherwise shall have a separate grounding conductor of their own.

f. The path to ground provided for a circuit shall, in general, have ampere capacity sufficient to insure the continuity and continued effectiveness of the path under conditions of excess current caused by accidental grounding of any normally ungrounded conductor of the circuit.

g. The grounding conductor for a direct current system shall have an ampere capacity not less than one-fifth that of the conductor to which it is attached. In no case shall the grounding conductor be smaller than No. 8.

h. The grounding conductor for an alternating current system shall have an ampere capacity not less than one-fifth that of the conductor to which it is attached. In no case shall the grounding conductor be smaller than No. 8 and it need not be larger than No. 0.

i. The conductor grounding a lightning arrester shall not be connected to an artificial ground provided for circuits or equipment, but shall be kept at a distance of at least 20 feet where practicable. The grounding conductor shall have an ampere capacity sufficient to insure the continuity and continued effectiveness of the path to ground under conditions of excess current caused by or following the discharge of the arrester. No individual grounding conductor shall have an ampere capacity less than No. 6.

j. The ampere capacity of a conductor grounding equipment shall be not less than that given in the following table:

Capacity of Nearest Cutout protecting Conductors to Equipment	Size of Grounding Conductor
0 to 100 Amperes	No. 10
101 to 200 "	" 6
201 to 500 "	" 4
Over 500 "	" 2

No. 18 copper may be used as a conductor grounding portable equipment, the conductors to which are protected by fuses not greater than 15 amperes. For portable equipment using more than 15 amperes, the above table shall be followed.

k. Where instruments, meters or relays operate with windings or working parts at a potential of 150 volts or above to ground the cases and other exposed bare metal parts of these devices insulated from the current carrying parts shall be grounded unless isolated by elevation or protected by suitable insulating barriers or guards. The grounding conductor shall be not less than No. 12. Where instruments, meters or relays are operated from current or potential transformers, the cases and other exposed bare metal parts which are insulated from the current carrying parts shall be grounded. The grounding conductor shall be not less than No. 12. The secondary circuits of current and potential transformers shall be grounded. The grounding conductor shall be not smaller than the conductor of the secondary circuit.

l. Sections of conduit, armored cable, metal raceways or other equipment shall be bonded together and the whole grounded, or each section shall be separately grounded. Equipment in the immediate vicinity of gas pipes shall be bonded thereto. This requirement shall not apply to service runs or to isolated lengths of conduit, armored cable or metal raceway not exceeding 25 feet, provided the runs are insulated from ground and adjacent grounded metal and are guarded when within reach from grounded surfaces.

m. The conductor grounding conduit, armored cable and metal raceway shall be at least equivalent to No. 10 when the largest conductor contained in the equipment is not greater than No. 0 and need in no case be larger than No. 4. The conductor grounding a service conduit shall be not less than No. 8.

n. The conductor used for grounding a circuit wire may be used also for grounding equipment, conduit, armored cable, metal raceway and the like where the inspection department has granted permission and the secondary system is grounded at the service; otherwise, separate grounding conductors shall be used for grounding the circuit and for grounding the equipment, conduit, armored cable, metal raceway and the like.

906. Ground Connections.

a. Where a non-conductive protective coating, such as enamel, is provided for equipment, couplings and fittings, such coating shall be completely removed from threads and other surfaces in order to insure a good



contact between ground clamp and equipment. Pipes or rods used to provide a ground shall be cleaned of rust, scale, paint, etc., at the point of attachment of the ground clamp. The connection and contact with the ground shall be permanent and effective, and shall always be made on a water piping system if one is available.

The protective grounding of electrical circuits and equipment to water piping systems, when performed in accordance with this article, should always be permitted, since such grounding offers the most efficient protection to life and property and is not injurious to the piping systems.

b. At supply stations, grounding conductors for circuits, equipment and lightning arresters shall be permanently and effectively connected to all available active, continuous, metallic underground piping systems between which no appreciable difference of potential normally exists; otherwise, to one system only. Elsewhere than at supply stations, the grounding conductor shall be connected to at least one such piping system, if available. Gas piping shall be avoided wherever practicable, except as provided in paragraph e of this section. Where underground metallic piping systems are not available, other grounds, which will provide the desired permanence and conductance, may be permitted.

c. The point of connection to the piping system shall be located on the street side of water meters except where the conductor serves as a ground only for equipment, conduit, armored cable, metal raceway and the like or as a multiple ground for an alternating current secondary. In these latter cases the point of connection may be located near the equipment to be grounded, and care shall be taken to keep the connection with the underground piping system continuous and permanent, by bonding all parts of the piping system which are liable to become physically disconnected, such as at meters and service unions, by means of a shunt consisting of two approved clamps and a conductor of the same size as the grounding conductor. Where practicable, the point of connection shall be in plain sight and readily accessible.

d. The ground conductor shall be attached to the pipe or rod (a) by means of an approved bolted clamp to which the conductor is soldered or otherwise connected in an approved manner, or (b) by means of a brass plug screwed into the pipe and provided with a lug to receive the conductor, or (c) by other approved means.

e. Gas piping systems within buildings shall be used as a ground only when water piping is not available, and then only for grounding equipment; provided, however, that gas piping may serve as the sole ground for small fixtures located at a considerable distance from water piping. Where gas piping is so utilized, it shall be bonded to the water piping system at their point of entrance. Gas piping need not be insulated from otherwise well grounded fixtures.

f. Rails or other grounded conductors of electric railway circuits shall not be used as a ground for other than railway lightning arresters and railway equipment, conduit, armored cable, metal raceway and the like when other effective grounds are available.

ARTICLE 10. ROTATING MACHINERY AND ITS CONTROL APPARATUS.

1001. General.

a. The frame, except for portable motors, shall be grounded if the machine operates at a potential in excess of 150 volts and is accessible to other than qualified persons. Grounding shall be performed in the manner prescribed in article 9 of this code. When the frame is not grounded, owing to the voltage being below 150 or the generator being accessible only to qualified persons or the motor being portable, the frame shall be permanently and effectively insulated from ground.

b. The frames of portable motors which operate at more than 150 volts shall be guarded or grounded.

It is recommended that the frames of portable motors which operate at less than 150 volts be grounded when this can be readily accomplished.

c. If terminal blocks are used, they shall be composed of approved non-combustible, non-absorptive insulating material, such as slate, marble or porcelain.

d. Soft rubber bushings may be used to protect lead wires where they pass through the frame, provided they will not be exposed to oils, grease, oily vapors or other substances having a deleterious effect on rubber. Where so exposed, bushings composed of porcelain, micanite or hardwood treated with a preservative shall be used.

1002. Generators.

a. Generators shall be located in dry places. They shall not be placed in a room where any hazardous process is carried on, nor where they will be exposed to inflammable gases or flyings of combustible materials.

It is recommended that waterproof covers be provided for use in an emergency.

b. Where wooden base frames or wooden floors serve to insulate frames from ground they shall be kept filled with moisture repellent and be kept clean and dry.

c. Direct current, constant potential generators, other than exciters for alternating current machines, shall be protected from excessive current by automatic cutouts of approved design; provided, however, that in central stations where the type of apparatus used and the nature of the system operated make protective devices inadvisable and unnecessary, their omission may be permitted by the inspection department. Single pole protection shall be accepted for 2-wire, direct current generators, if the protective device is actuated by the entire generator current and will completely open the generator circuit.

d. If a generator not electrically driven supplies a 2-wire grounded system, the protective device shall be so placed as to disconnect the generator from all wires of the circuit.

e. Two wire, direct current generators, used in conjunction with balancer sets to obtain neutrals for 3-wire systems, shall be equipped with protective devices which will disconnect the 3-wire systems in the case of excessive unbalancing of voltages.

f. Three-wire, direct current generators, whether compound or shunt wound, shall be equipped with protective devices, one in each armature lead and so connected as to be actuated by the entire current from the armature. Such protective device shall consist either of a double-pole double-coil, overload circuit breaker, or of a 4-pole circuit breaker connected in the main and equalizer leads and tripped by two overload devices, one in each armature lead. Such protective devices shall be so interlocked that no one pole can be opened without simultaneously disconnecting both leads of the armature from the system.

g. Where a generator and a transformer are intended to operate as a unit for stepping up or stepping down the voltage, and are both located in the same building, a protective device between them shall not be required.

h. Each generator shall be provided with a name-plate giving the maker's name, the rating in kilowatts, if direct current, or kilovolt am-

peres, if alternating current, the normal volts and amperes corresponding to the rating, and the revolutions per minute.

1003. Motors.

a. Motors shall not be operated in series-multiple or multiple-series except on constant-potential systems where permission has been granted by the inspection department.

b. Motors having brushes or sliding contacts exposed to combustible dust shall be located in separate dust-tight rooms or non-combustible housings provided with effective ventilation from a source of clean air.

c. In places where combustible dust is thrown into suspension in the air in sufficient quantity to produce explosive mixtures, such as in flour mills, grain elevators, etc., or where it is impracticable to prevent dust or flying material collecting in dangerous quantities on or in motors, all motors shall be either of the totally enclosed type or placed in separate dust-tight rooms or non-combustible housings. Such rooms or housings shall be effectively ventilated from a source of clean air.

d. Motors permanently located on wooden floors shall be provided with suitable drip pans, if so required by the inspection department.

e. Adjustable speed motors, if controlled by means of field regulation, shall be so equipped and connected that they cannot be started under weakened field, unless this safeguard is incorporated in the design of the machine.

f. Each motor shall be provided with a name plate giving the maker's name, the capacity in volts and amperes, the normal full-load speed and the interval during which it can operate, starting cold. The time interval given shall be either 5, 10, 15, 30, 60 or 120 minutes, or continuous.

g. Each motor with its starting device shall be controlled by an indicating switch so arranged that the opening of the switch will disconnect all ungrounded motor leads; provided, however, that this requirement shall not apply to crane motors, considered in article 30 of this code. A double-throw switch used to shunt the motor protective device during the starting period shall be of such type that it cannot be left in the starting position without the proper running overload protective devices in the circuit. An automatic circuit breaker which disconnects all ungrounded wires of the circuit may serve also as a switch. The switch and starting device shall be located within sight of the motor, unless permission to locate them elsewhere is given by the inspection department. A single pole switch may be used to control a 2-wire motor of not over $\frac{1}{4}$ horse power, operating at a potential not exceeding 300 volts.

i. The motor switch shall have a continuous duty rating at least equal to the current-carrying capacity of the wires between the motor and its running overload protective device, and it may be of the disconnecting type if it is not intended to be operated under load and is so located or locked that it cannot be readily operated by unqualified persons.

h. Except for auto starters the switch called for in the preceding paragraph may be omitted where the motor starter disconnects all ungrounded wires of the circuit. When auto starters are used a switch shall be provided on the supply side of each auto starter or group of auto starters and the switch shall be within sight of the starter or starters controlled.

1004. Autotransformer Starters.

a. Control apparatus, other than autotransformer starters, shall conform to the requirements of article 17 of this code.

b. Coils and switches of autotransformer starters intended for use in dusty or linty places or where flyings of combustible material are present, shall be completely enclosed in substantial dustproof metal cases.

c. Cases for coils or switches shall afford access to the interior for inspection and oil renewal, and shall be so constructed that when mounted on a plane surface the case will make contact with such surface only at points of support. An air space of at least $\frac{1}{4}$ inch shall be maintained between case and surface.

d. The oil tank shall be marked in a suitable manner to indicate the proper oil level. When such device carries a visual oil indicator, the marking shall be for the proper oil level with the starter assembled. If the visual indicator is not used, markings shall indicate the oil level prior to assembling.

e. The switch shall provide an off position, a running position and at least one starting position. It shall be so designed that it cannot rest in a starting position, or in any position which will render inoperative the overload protective devices in the circuit.

ARTICLE 11. TRANSFORMERS: UNDER 600 VOLTS.

1101. Exception.

a. Nothing in this article shall be construed to apply to apparatus or fittings, the operation of which depends either wholly or in part upon special air-cooled transformers embodied in the devices; but all such apparatus or fittings shall be submitted for special examination and approval before being installed.

1102. General.

a. No oil transformer shall be placed within any building other than a central station or a sub-station, except by permission of the inspection department; nor shall such a transformer be attached to a building except by permission of the inspection department and when separated therefrom by substantial supports.

b. No air-cooled transformer operating at a potential exceeding 600 volts shall be placed within any building other than a central station or a sub-station.

c. The construction of an air-cooled transformer shall be such that when mounted on a plane surface the casing will make contact with such surface only at the points of support, providing elsewhere an air space of at least $\frac{1}{4}$ inch between casing and surface. If the surface is composed of combustible material, the air space shall be increased to at least 1 foot, unless a slab of non-combustible, non-absorptive insulating material is interposed.

This will require a slab of slate, marble or soapstone, somewhat larger than the transformer.

This section shall not be construed to apply to bell ringing and other signalling transformers, which operate at a primary voltage not exceeding 250 volts.

d. Transformer cases shall be grounded as provided in article 9 of this code.

ARTICLE 12. SWITCHES.

1201. Construction of Knife Switches.

a. A knife switch shall be deemed to be a switch having electrical connecting parts in the form of hinged or pivoted bars or blades and designed for manual operation.

b. Under the term knife switch shall be included single or multiple pole switches, either with or without fuse terminals, switches having individual bases designed for either front or rear wiring connections; also switch parts without separate bases intended for mounting on switchboards and panelboards.



c. Knife switches shall be plainly marked where the marking can be read when the switch is installed, with the current and the voltage for which the switch is designed, as follows:

Classification	Markings
125 V., D. C. or A. C. Only for switchboards and panelboards. (With or without fuses.)	125 V., Amps.
250 V., D. C. or 500 V., A. C. (Without fuses.)	250 V., D. C., 500 V., A. C. Amps.
250 V., D. C. or A. C. (With fuses.)	250 V., Amps.
500 V., A. C. (With 600-volt fuses.)	500 V., A. C. Amps.
600 V., D. C., or A. C. (With or without fuses.)	600 V., Amps.
Triple-pole: With 125 volt spacings between blades. For use on three-wire systems having 125 volts between adjacent wires and not over 250 volts between outside wires.	125 V., Amps.
Triple-pole: With 250 volt spacings between blades. For use on three-wire systems having 250 volts between adjacent wires and not over 500 volts between outside wires.	250 V., Amps.

For switches of capacities above 1,000 amperes, where the alternating current rating will generally be less than the direct current rating, the markings shall indicate the ampere rating definitely as A. C. or D. C. The frequency in cycles shall also be stated. Three hundred ampere switches shall be used only on switchboards.

d. Pieces carrying or used to hold the break and hinge jaws shall be secured to the base or mounting surface in such a manner as to prevent possible turning.

e. The cross bar shall be secured to each blade in such a manner as to prevent turning and twisting.

f. The spacings given below shall be considered standard and as the minimum allowable, except as otherwise provided for in this article:

TABLE 1.
For Switchboards and Panels Only.

Ampere Rating	Opposite Polarity	Break Distance
30	1	$\frac{3}{4}$
60	$1\frac{1}{4}$	1

TABLE 2.
For All Other Switches.

Ampere Rating	125 V., D. C. or A. C. Opp. Pol. Break.	250 V., D. C. or A. C. Opp. Pol. Break.
30	$1\frac{1}{4}$	$1\frac{1}{2}$
60	$1\frac{1}{2}$	$2\frac{1}{4}$
100	$1\frac{3}{4}$	2
200 and 300	$2\frac{1}{4}$	$2\frac{1}{2}$
400 and 600	$2\frac{3}{4}$	$2\frac{3}{4}$
800 to 6000 incl.	3	$2\frac{3}{4}$

Ampere Rating	500 V., A. C. Opp. Pol. Break.	600 V., D. C. or A. C. Opp. Pol. Break.
30	$2\frac{1}{4}$	4
60	$2\frac{3}{4}$	$3\frac{1}{2}$
100	$2\frac{3}{4}$	4
200 and 300	$2\frac{3}{4}$	$4\frac{1}{2}$
400 and 600	$2\frac{3}{4}$	$4\frac{1}{2}$
800 to 6000 incl.	3	$4\frac{1}{2}$

The measurements given under Tables 1 and 2 shall be taken within the area of the switch base bounded by the contact parts of the switch mechanism (break and hinge jaws). The measurements outside the zone of the switch mechanism shall not be less than given under Table 3. The dimensions given for break distances shall not apply to quick break attachments on switch mechanisms.

TABLE 3.

Spacings between Parts of Opposite Polarity outside the area bounded by the contact parts of the switch mechanism (except for Link Fuses).

When Mounted on Same Surface	When Clear of Surface
Not over 125 Volts $\frac{3}{4}$ Inch	$\frac{3}{4}$ Inch
" " 250 " $1\frac{1}{4}$ "	$\frac{3}{4}$ "
" " 600 " 2 "	$1\frac{1}{4}$ "

It is recommended that switches above 1000 amperes capacity be not used to break currents, but only as disconnecting switches.

g. When fuse terminals are provided the spacings for such terminals shall conform to the requirements of article 8 of this code.

h. Switches rated above 600 amperes at 600 volts and 600 amperes at 250 volts, and therefore exceeding the capacities of standard sizes of cartridge enclosed fuses, may be arranged for fuses in multiple, provided as few fuses as possible are used, and the fuses are of equal capacity, and the multiple terminals for each pole are mounted in common.

i. Switches marked with the combined rating, 250 volts, D. C. or 500 volts, A. C. shall not be provided with fuse terminals.

j. Switches having fuse terminals and intended for use in ungrounded branch circuits shall have fuse terminals in each pole.

k. Auxiliary contacts of a renewable or quickbreak type or the equivalent shall be provided on all 600-volt switches designed for use in breaking currents from 200 to 1000 amperes, inclusive.

It is recommended that such auxiliary contacts be provided on all direct current switches rated at over 250 volts.

l. Barriers designed to be placed between the poles of switches and not located within the influence of the arc formed by the opening of the switch shall be of non-absorptive insulating material. Barriers placed between the poles of switches and located within the influence of the arc shall be of non-combustible, non-absorptive, insulating material.

m. Barriers designed to be placed between poles of switches at hinge jaws shall be of such size and so located as to provide a separation between contact parts measured in the shortest insulating surface path over the barrier equal to that required for switches without barriers, and to provide a separation between other current-carrying parts, as provided in paragraph f of this section.

n. Barriers placed between the poles of switches at the break jaws, and, therefore, located within the influence of the arc formed by the opening of the switch, shall be of such size and so located as to provide a separation between contact parts measured in the shortest path through air over the barrier equal to that required for switches without barriers.

o. Switches designed for double throw and having three or more poles, shall not have front-connected terminals for the hinge contacts of the inner poles unless standard switch spacings between adjacent live metal parts of opposite polarity are secured either by increased spacing between poles or by the use of barriers as provided for in paragraphs l, m and n, of this section.

1202. Installation of Switches; General.

a. Switches shall not be placed where exposed to mechanical injury or in the immediate vicinity of easily ignitable stuff or where exposed to inflammable gases or dust, or flyings of combustible material. Where the occupancy of the building is such that switches cannot be located so as not to be exposed as above, they shall be mounted in approved boxes or cabinets, except oil switches, circuit-breakers and similar devices which have approved casings.

See article 32 for switches in extra hazardous locations.

b. Switches shall always be placed in dry, accessible places, and be grouped as far as possible.

c. Switches when located where exposed to moisture as in basements and similar places, shall be mounted in approved boxes or cabinets, and when located in wet places or outside buildings shall be mounted in approved weatherproof switch boxes or cabinets.

1203. Position and Connection of Knife Switches.

a. Single-throw knife switches shall be so placed that gravity will not tend to close them. Double-throw knife switches may be mounted so that the throw will be either vertical or horizontal as preferred, but if the throw be vertical a locking device shall be provided, so constructed as to insure the blades remaining in the open position when so set.

b. When practicable switches shall be so wired that blades will be dead when the switch is open.

It is recommended that up to 250 volts and thirty amperes, approved indicating snap switches, instead of knife switches, be used on lighting circuits.

1204. Number of Poles Required for Switches.

a. Single pole switches shall never be used as service switches, except as permitted in section 405 of this code, nor be placed in any neutral or grounded wire. Three-way switches shall be classed as single-pole switches, and shall be so wired that only one pole of the circuit will be carried to either switch.

b. On constant potential circuits, all service switches and all switches controlling circuits supplying current to motors or heating devices, unless otherwise provided in this code, shall be so arranged that the opening of the switch will disconnect all the ungrounded wires.

c. Where a circuit breaker serves as a switch, it shall conform to the requirements of this section as to the number of poles.

1205. Mounting of Snap Switches and Flush Switches.

a. Surface mounted snap switches shall be supported at outlets when possible by $\frac{1}{2}$ -inch blocks, fastened between studs flush with back of lath, except when approved fittings or outlet boxes which will give proper support are used. When this cannot be done, base blocks not less than $\frac{3}{4}$ inch in thickness securely screwed to the lathing shall be provided.

b. Sub-bases of non-combustible, non-absorptive insulating material, which will separate the wires at least $\frac{1}{2}$ inch from the surface wired over, shall be installed under all snap switches used in exposed knob and cleat work. Sub-bases shall also be used in raceway work; but they may be made of hardwood or they may be omitted if the switch is approved for mounting directly on the moulding.

c. Where flush switches or receptacles are used, whether with conduit systems or not, they shall be enclosed in an approved switch or outlet box constructed of iron or steel, in addition to the porcelain enclosure of the switch.

1206. Special Types of Switches.

a. In central stations and sub-stations oil circuit breakers and switches shall, wherever practicable, be isolated from other switches and electrical apparatus.

b. Time switches, sign flashers and similar appliances shall be of approved design and enclosed in approved cabinets.

ARTICLE 13. SWITCHBOARDS AND PANELBOARDS.

1301. Switchboards: Location and Accessibility.

a. Switchboards shall be so placed as to reduce to a minimum the danger of communicating fire to adjacent combustible material.

b. Switchboards shall not be built up to the ceiling, a space of 3 feet being left, if possible, between the ceiling and the board. The space back of the board shall be kept clear of rubbish and shall not be used for storage.

c. Switchboards shall be accessible from all sides when the connections are on the back.

It is recommended that all switchboards be set out from the wall, but they may be placed against a brick or stone wall when the wiring is entirely on the face.

d. Switchboards shall be so located that they will not be exposed to moisture.

1302. Switchboards: Material and Wiring.

a. The bases of switchboards shall be made of non-combustible material.

b. Bus-bars, if rigidly mounted, may be of bare metal.

c. If the wiring is on the back, there shall be a clear space of at least 18 inches between the wall and the apparatus on the rear of board.

d. Insulated conductors where closely grouped as in rear of switchboards shall each have a substantial flameproof outer covering.

e. Flameproofing shall be stripped back on all conductors a sufficient distance from the terminals to give the necessary insulation for the voltage of the circuit on which the conductor is used.

f. In wiring switchboards, the ground detector, voltmeter, pilot lights and potential transformers shall be connected to a circuit of not less than No. 14 wire that is protected by approved fuses. This circuit shall not carry over 660 watts.

1303. Panelboards.

a. The requirements of this section shall apply to all panel and distributing boards used for the control of light and power circuits, but not to such switchboards in central stations, sub-stations or isolated plants as directly control energy derived from generators or transforming devices.

b. Switches, fuses and cutout bases used on panelboards, shall conform to the requirements of article 12 and 8 respectively, of this code, so far as they apply.

c. In the relative arrangement of fuses and switches, the fuses may be placed between the bus-bars and the switches, or between the switches and the circuits, except in the case of service switches, where the requirements of article 4 of this code shall be observed. When the branch switches are between the fuses and bus-bars, the connections shall be so arranged that the blades will be dead when the switches are open.

d. When there are exposed live metal parts on the back of board, a space of at least $\frac{1}{2}$ inch shall be provided between such live metal parts and the cabinet in which the board is mounted.

e. The following minimum distances between bare live metal parts (bus-bars, etc.) shall be maintained:



Between parts of opposite polarity except at switches and link fuses.		When mounted on the same surface		When held free in air	
Not over 125 volts	$\frac{3}{4}$ inch	" " 250	$\frac{1}{4}$ inch	" " 250	$\frac{1}{4}$ inch
" " 600	2 "	" " 600	2 "	" " 600	2 "

At switches or enclosed fuses, parts of the same polarity may be placed as close together as convenience in handling will allow.

At link fuses at not over 125 volts the spacings between parts of the same polarity shall be not less than $\frac{1}{2}$ inch and at not over 250 volts, not less than $\frac{3}{4}$ inch.

These spacings are intended to prevent the melting of a link fuse by the blowing of an adjacent fuse of the same polarity.

The spacings given in the first column shall apply to the branch conductors where enclosed fuses are used. Where link fuses or knife switches are used, the spacings shall be at least as great as those prescribed in articles 8 and 12 respectively, of this code.

The spacings given in the second column shall apply to the distance between the raised main bars and between these bars and the branch bars over which they pass.

It should be noted that the above distances are the minimum allowable, and it is recommended that greater distances be adopted wherever the conditions will permit.

ARTICLE 14. FIXTURES, LAMP SOCKETS AND RECEPTACLES, PLUG RECEPTACLES AND OTHER OUTLET DEVICES.

1401. Construction of Fixtures.

a. Fixtures shall be composed of metal or wood, or such other material as may have been submitted for examination and approved. Materials other than metal shall be reinforced by metal or the fixtures shall be otherwise constructed to secure the requisite mechanical strength.

b. In all fixtures not made entirely of metal, wireways shall be lined with metal unless approved armored conductors with suitable fittings are used. This requirement shall not apply to wireways in glass, marble or similar non-absorptive, non-combustible insulating materials.

c. All methods of fastening arms, sockets, bodies, supports, and receptacles by threading, soldering, brazing or otherwise, shall be such as to secure in every case ample strength and reliability, and to prevent turning. Screw joints shall have not less than five threads engaging. Tubing used in making threaded arms and stems shall be composed of metal having a thickness not less than .04 inch. It shall not be kinked, flattened or cracked.

d. All burrs and fins in wireways shall be removed and all sharp edges rounded, where practicable, so that wires may be drawn in and withdrawn without injury. Fittings having smooth, rounded edges, shall be placed at entrance to casings of fixture stems.

e. Fixtures exposed to moisture, whether located indoors or outdoors, shall be so constructed that water cannot enter the wireways, sockets or other electrical parts.

f. Fixture studs which are not parts of outlet boxes, hickey, tripods and crowfoot shall be made of malleable iron or other approved material.

g. All fixtures shall, where practicable, be sufficiently ventilated. All forms of fixtures in which the wiring is liable to be exposed to temperatures in excess of 120 degrees F. (49 degrees C.) shall be so designed or ventilated and installed as to operate at temperatures which will not cause deterioration of the wiring.

h. Canopies and outlet boxes or plates shall, taken together, provide ample space for the reception of the wires and their connecting devices.

i. Receptacles having exposed terminals shall not be placed in canopies unless completely enclosed in metal.

j. Canopy insulators, used where insulating joints are required, shall be of approved type and shall be securely fastened in place, so as to separate the canopies effectively and permanently from the conducting surfaces from which they are intended to be insulated. The insulating strip or sheet shall be secured by rivets or screws which shall be so placed or countersunk that the desired effective insulation distance will be obtained.

A strip of a good grade of hard fiber, $\frac{1}{4}$ inch in thickness, permanently attached to the canopy at the ends and at intermediate points in such a manner that the strip will extend permanently at least $\frac{1}{4}$ inch beyond the upper edge of the canopy rim, will be accepted. Where this is impracticable, a flat sheet of said fiber, cut to conform to the general outline of the canopy and having the edges of the sheet at least flush with the edges of the canopy may be employed, if permanently attached to the canopy.

k. Insulating joints shall be composed of materials especially approved for the purpose. Those which are not designed to be mounted with screws or bolts shall have a substantial exterior metal casing, insulated from both screw connections.

1402. Wiring of Fixtures.

a. No conductor shall be smaller than No. 18. On chains or other moveable parts stranded conductors shall be used, unless the wires are completely enclosed in metal. Where the fixture is externally wired, wires shall be secured in a manner which will not tend to cut or abrade the insulation, and shall be protected from abrasion where they pass through sheet metal pans, canopies, etc. No splice or tap shall be located within an arm or a stem.

It is recommended that approved splicing devices or approved plug connections be used for attaching the fixture wires to the circuit wires.

b. Each fixture shall be so wired that all screw shells of sockets will be connected to the same fixture stem wire, or supply wire, or terminal in the fixture, and this wire or terminal shall be marked in an approved manner by which it may be readily distinguished. The marked wire shall in all cases be the grounded wire.

c. Chain fixtures shall be wired with flexible conductors so arranged that the weight of the fixture will not put tension on the conductors.

d. Approved fixture wire, approved flexible cord or approved rubber-covered wire shall be employed, unless the wiring is exposed to temperatures in excess of 120 degrees F. (49 degrees C.) in which case conductors having slow-burning or other heat-resisting covering shall be used. Fixtures intended for outdoor use shall be wired with approved rubber covered conductors. Wires shall always be so disposed as to avoid exposure to high temperatures as far as practicable. Fixtures intended for use in rooms where inflammable gases may exist shall consist of rigid stems, internally wired with approved rubber covered conductors, soldered directly to the circuit, and shall be equipped with vaportight globes.

e. Fixture wires or the individual conductors of flexible cords used where the voltage between any two conductors or between any conductor and the ground is over 300 volts, shall have insulation at least $\frac{1}{16}$ inch in thickness for sizes No. 8 and smaller.

f. Wires of different systems shall not be contained in or attached to a fixture; nor shall electric gas lighting wiring, other than for the frictional system, be attached thereto.

g. All wiring shall be free from short circuits and grounds, and shall be tested for these defects prior to being connected to the circuit.

1403. Installation of Fixtures.

a. Fixtures shall be insulated from their supports by approved insulat-

ing joints, placed as close as possible to the ceiling or wall, except under the following conditions, where both insulating joint and canopy insulator may be omitted:

1. Straight electric fixtures connected to knob-and-tube work, wooden raceways or open work, except on metal ceilings or on plaster walls or ceilings containing metal lathing.

2. Straight electric fixtures where the screw shells of the sockets are connected to the grounded wire of the circuit and in which all wires have an approved insulation and which are metallically connected in a permanent and effective manner to metal conduit, armored cable or metal raceway systems or to gas piping, provided such gas piping is grounded in the manner prescribed in article 9 of this code.

3. Straight electric fixtures where the screw shells of the sockets are connected to the grounded wire of the circuit and in which all wires have an approved insulation and which are permanently and effectively grounded to a separate ground wire not smaller than No. 14.

b. Fixtures having so-called flat canopies, tops or backs shall not be installed where outlet plates are used.

It is recommended that for all sidewall and partition outlets in concealed work in new buildings under construction outlet boxes having a depth of approximately $\frac{1}{2}$ inches be used.

c. No externally wired fixture shall be located in the immediate vicinity of especially inflammable material; nor shall any externally wired fixture other than of the chain type be placed in a show window. Armored cord pendants shall be considered to be internally wired fixtures.

d. Where no gas pipe, conduit or other fitting which will provide proper support is present, the fixture shall be attached to a $\frac{1}{2}$ inch block fastened between studs or floor timbers and flush with the back of the lathing. Where this method cannot be employed, a wooden base block, not less than $\frac{1}{2}$ inch in thickness, shall be provided.

e. Gas pipes shall be covered with insulating tubing back of the insulating joint or blind hickey. Where outlet tubes are used, they shall be of sufficient length to extend beyond the joint or hickey, and shall be firmly secured in place.

f. Fixtures shall be so installed that the connections between the fixtures and the branch circuit wires will be easily accessible for inspection without requiring the disconnecting of any portion of the wiring, unless the fixture is attached by an approved plugging device.

1404. Lamp Sockets and Receptacles.

a. Lamp holding devices shall be classed according to diameters of lamp bases, as candelabra, medium and mogul base, to be known respectively as $\frac{1}{2}$ inch, 1 inch and $1\frac{1}{2}$ inch nominal sizes, with ratings as specified in the following table:

Class.	Nominal Diam.	Key-Ratings				Keyless-Ratings			
		Max. Amp. at Any Voltage		Max. Amp. at Any Voltage		Max. Amp. at Any Voltage		Max. Amp. at Any Voltage	
		Watts	Volts	Watts	Volts	Watts	Volts	Watts	Volts
Candelabra....	$\frac{1}{2}$ in.	75	125	$\frac{3}{4}$	75	125	1	75	125
Medium.....	1 in.	250	250	2 $\frac{1}{2}$	660	250	6	660	250
	(a)	660	250	6	660	250		660	250
Mogul.....	1 $\frac{1}{2}$ in.				1500	250		1500	250
	(b)				1500	600			

(a) This rating may be given only to sockets having a switch mechanism which produces both a quick "make" and a quick "break" action.

(b) Ratings to be assigned later, pending further discussion with manufacturers.

Miniature sockets and receptacles having screw shells smaller than the candelabra size may be used for decorative lighting systems, Christmas tree lighting outfits, and similar purposes.

For exceptions for medium base key sockets and receptacles see article 40, Small Isolated Plants.

It is recommended that 660 watt sockets and receptacles be used wherever the attachment of flexible cords thereto is likely.

Receptacles for attachment plugs (convenience outlets) are strongly recommended in order to facilitate the use of electrical appliances which, otherwise, must be connected to sockets designed primarily only as lamp holders.

b. The inside of metal shells shall be lined with insulating material, which shall absolutely prevent the shell from becoming a part of the circuit, even though the wires inside the sockets should become loosened or detached from their position under the terminal screws.

c. The lining shall not extend beyond the metal shell more than $\frac{1}{8}$ inch, but shall prevent any current-carrying part of the lamp base from being exposed when a lamp is in the socket.

d. The cap also shall be lined.

In sockets and receptacles of standard forms a ring of any material inserted between an outer metal shell of the device and the inner screw shell for insulating purposes and separable from the device as a whole, is considered an undesirable form of construction. This does not apply to the use of rings in lamp clusters or in devices where the outer shell is of porcelain, where such rings serve to hold the several porcelain parts together, and are thus a necessary part of the whole structure of the device.

e. The socket as a whole shall be so put together that parts will not rattle loose or fall apart under the most severe conditions they are likely to meet with in practice. The base of the socket shall be secured or held in the shell in such a manner as to prevent turning or displacement relative to the shell.

f. Lead wires furnished as a part of sockets and intended to be exposed after installation shall be of approved stranded, rubber-covered wire, not less than No. 14 gauge (No. 18 gauge for candelabra sockets), and shall be sealed in place.

g. If the socket is not attached to a fixture, the inlet shall be equipped with an approved insulating bushing which, if threaded, shall be not smaller than $\frac{1}{8}$ inch in size. The edges of bushings shall be rounded and all inside fins removed in order to provide a smooth bearing surface for the wire.

It is recommended that bushings having holes $\frac{1}{8}$ inch in diameter be employed with plain pendant cord, and holes $\frac{1}{4}$ inch in diameter with reinforced cord.

h. In places where combustible dust is thrown into suspension in the air in sufficient quantities to produce explosive mixtures, dust-tight fixtures enclosing lamps and sockets shall be used. Such fixtures shall be supported by conduit hangers or chains to prevent any strain on the wires. Where rubber-covered wire is used it shall have insulation not less than $\frac{1}{16}$ inch thick.

i. Sockets and receptacles installed over specially inflammable stuff or where exposed to flyings of combustible material shall be of the keyless type and, unless individual switches are provided, shall be located at least 7 $\frac{1}{2}$ feet above the floor, or shall be otherwise so located or guarded that the lamps cannot readily be backed out by hand.

j. Weatherproof sockets, especially approved for the location, shall be employed in damp or wet places or where corrosive vapors exist. If not attached to fixtures, they shall be hung from separate stranded wires not less than No. 14 which are soldered directly to the circuit wires but supported independently thereof.

It is recommended that these wires be twisted together, if the pendant is longer than 3 feet.



k. Where no fitting which will provide proper support is present, the receptacle shall be attached to a block in the manner provided for the support of a fixture under similar conditions.

l. Flush receptacles shall be inclosed in approved metal boxes in addition to the porcelain inclosure of the receptacle mechanism.

m. Attachment plugs and receptacles located in floors shall be inclosed in approved metal boxes especially designed for the purpose. Where the location is free from mechanical injury or moisture, a departure from this requirement may be permitted by the inspection department.

1405. Rosettes.

a. When designed for use with exposed wiring, rosettes shall be provided with bases which shall have at least 2 holes for supporting screws, shall be high enough to keep the wires and terminals at least $\frac{1}{2}$ inch from the surface wired over, and shall have a porcelain lug under each terminal to prevent the rosette being placed over projections which would reduce the separation to less than $\frac{1}{2}$ inch.

b. When designed for use with conduit boxes or wire raceways, rosette bases shall be high enough to keep wires and terminals at least $\frac{3}{8}$ inch from the surface wired over.

c. Fuseless rosettes shall be rated at 660 watts, 250 volts, with a maximum current rating of 6 amperes.

d. Fused rosettes shall not be used.

ARTICLE 15. LAMPS.

1501. Arc Lamps.

a. Arc lamps shall be equipped only with such resistances or regulators as are enclosed in noncombustible cases, said resistances or regulators being treated as sources of heat. An incandescent lamp shall not be used as resistance or regulator. Economy and compensator coils shall be mounted on non-combustible, non-absorptive insulating supports, such as glass or porcelain, providing an air space of at least 1 inch between frame and support. Such coils shall generally be treated as sources of heat.

b. Arc lamps shall be equipped with globes and spark arresters. The globe shall be guarded by a wire netting having a mesh not exceeding $1\frac{1}{4}$ inches. The globe, netting and spark arrester shall not be required where the lamp is of enclosed arc type.

c. Outdoor arc lamps shall be suspended at least 8 feet above the sidewalk. Indoor arc lamps shall be hung out of reach, or be suitably protected.

d. Leads to arc lamps shall have a current carrying capacity approximately 50 per cent in excess of the normal current of the lamp. If the leads are larger than No. 14 and the lamp suspension provides for raising and lowering, the leads shall be composed of stranded wires.

e. There shall be provided a cutout for each lamp or series of lamps.

1502. Mercury Vapor Lamps.

a. Enclosed mercury vapor lamps shall be equipped with only such resistances or regulators as are enclosed in non-combustible cases, such resistances or regulators being treated as sources of heat. Where these resistances or regulators are subject to flyings of lint or combustible material, all openings in their casings shall be covered by fine wire gauze.

b. A cutout shall be provided for each enclosed mercury vapor lamp or series of lamps, except where not more than five lamps are contained in a single frame and lighted by a single operation. By permission of the inspection department lamps may be so grouped that not more than 4000 watts will be dependent upon one cutout.

c. Fixtures carrying enclosed mercury vapor lamps shall be wired with insulated conductors not smaller than No. 12. Taps from circuit wires to points of suspension of fixtures shall not exceed 18 inches in length.

1503. Gas-filled Incandescent Lamps.

a. Gas-filled incandescent lamps shall not be equipped with medium bases if above 250 watts rating, nor with mogul bases if above 1500 watts rating. They shall not be located in show windows nor where liable to contact with inflammable material unless installed in approved fixtures equipped with shades or guards or suitably designed to operate at a safe temperature.

b. Indoor fixtures carrying gas-filled incandescent lamps shall be wired with conductors having approved heat-resisting insulation. Outdoor fixtures shall be wired with conductors having approved rubber covering.

ARTICLE 16. HEATING APPLIANCES.

1601. Exception.

a. This article shall not be construed to apply to heating appliances intended for use on circuits operating at a potential not exceeding 50 volts.

1602. General.

a. Each heating appliance shall be provided with a name-plate, giving the maker's name and the normal capacity in volts and amperes or in volts and watts.

b. Each smoothing iron, sadiron and other portable heating appliance, which is intended to be applied to combustible material, shall be equipped with an approved stand.

c. It is strongly recommended that each such heating appliance or group of appliances be used with an approved signal or with an approved protective device.

d. Wires supplying smoothing irons, sad-irons and all portable heating appliances requiring more than 250 watts shall conform to the requirements for heater cord, as prescribed in article 6 of this code. Wires supplying stationary heating appliances shall conform to the requirements for rubber-covered wire, as prescribed in article 6 of this code; provided, however, that heat-resisting covering shall be used in place of rubber where wires outside the terminal box are subjected to a temperature in excess of 120 degrees F. (49 degrees C.).

e. Heating appliances each of 6 amperes or 660 watts or less may be used on branch circuits. Heating appliances each of 10 amperes or 1200 watts or less may be grouped on a special circuit protected by fuses having a rated capacity not greater than 15 amperes. Each complete heating appliance, whether containing one or more heating elements which is of more than 10 amperes of 1200 watts total capacity, shall be supplied by a separate branch circuit and shall be controlled by an indicating switch located within sight of the appliance and readily accessible, which switch shall disconnect all wires supplying the appliance.

f. Single pole switches on the individual units of electric ranges, etc., shall not be considered as taking the place of the switch required by this section; but an approved attachment plug and receptacle of not more than 30 amperes rating may serve in lieu of the switch.

g. Portable heating appliances having a capacity not exceeding 6 amperes or 660 watts may be connected individually to lighting circuits.

h. Subdivided circuits of a stationary heating appliance need not be separately fused.

i. Each portable heating appliance shall be equipped with an approved plug connector so designed that the plug may be pulled out to open the

circuit without leaving any live parts so exposed as to render likely accidental contact therewith. The connector may be located at either end of the flexible conductor or inserted in the conductor itself.

1603. Stationary Heating Appliances.

a. Each heating appliance which is obviously intended by size, weight and service to be secured in a fixed position shall be so placed as to furnish ample protection between the appliance and adjacent combustible material.

b. Metal frames of stationary heaters operating on circuits above 150 volts to ground shall be grounded; provided, however, that where this is impracticable, grounding may be omitted by permission of the inspection department, in which case the frame shall be permanently and effectively insulated.

It is recommended that the frame be grounded in all cases.

c. Wires supplying stationary heating appliances shall, if not in conduit, be so located as to be protected from mechanical injury and moisture.

It is recommended that conduit be employed.

ARTICLE 17. RESISTANCE DEVICES.

1701. Construction.

a. Rheostats, resistance boxes and equalizers intended for use in dusty or linty places or where exposed to flyings of combustible material shall be so constructed as to confine and quickly extinguish any arc or flame caused by the burning out of the resistive conductor and shall be equipped with dustproof face plates. For locations other than those above specified, these devices may be of any approved type.

b. Reactive coils shall be composed of noncombustible material, mounted on non-combustible bases and treated generally as sources of heat.

c. Condensers shall be provided with non-combustible cases and supports, and shall be installed in the manner provided for other apparatus operating with equivalent voltages and currents.

d. Resistance devices shall be so constructed that when mounted on a plane surface the casing will make contact with such surface only at the points of support, an air space of at least $\frac{1}{4}$ inch being maintained between the casing and the surface.

e. The terminals of motor-starting rheostats shall be marked to indicate the part of the circuit to which each terminal is to be connected, as "line," "armature" and "field."

f. Fixed and movable contacts shall be so designed and so connected to the resistive conductor that there will be a minimum of arcing and consequent roughening of the contacts, even with careless handling or in the presence of dirt. In motor-starting rheostats, the point or plate on which the arm rests when in the starting position shall have no electrical connection with the resistive conductor.

g. Motor-starting rheostats shall be so designed that the contact arm cannot be left on intermediate segments. Such rheostats, if intended for use on direct current circuits, shall be equipped with automatic devices which will interrupt the supply before the speed of the motor has fallen to less than one third its normal value.

h. Where insulated wire is used for connections between resistance elements and the contact device of a rheostat, except for motor starting service, the insulation shall be of the slow-burning type. For large rheostats and similar resistances where the contact devices are not mounted upon them the connecting wires having slow-burning insulation may be so arranged in groups that the maximum difference of potential between any two wires in any group shall not exceed 75 volts. Each group of wires shall either be mounted on non-combustible, non-absorptive insulators giving at least $\frac{1}{2}$ inch separation from the surface wired over, or, especially where it is necessary to protect the wires from mechanical injury, each group of wires may be encased in flexible tubing and placed in approved conduit, the flexible tubing extending at least 1 inch beyond the ends of the conduit.

1702. Installation.

a. Resistance devices shall be placed on a switchboard, or at a distance of at least 1 foot from combustible material, or shall be separated therefrom by a slab or panel of non-combustible, non-absorptive material, such as slate, soapstone or marble. This slab shall be somewhat larger in area than the resistance device and shall be secured in position by its own supports which shall be independent of those fastening the resistance device to the slab. Bolts which support the resistance device shall be countersunk at least $\frac{1}{2}$ inch below the rear surface of the slab and shall be covered with insulating material. The slab shall have a thickness proportioned to the size and weight of the resistance device, in order to provide proper mechanical strength, and this thickness shall be not less than $\frac{1}{2}$ inch.

b. Where exposed live parts of an autotransformer starter are liable to accidental contact, a railing shall be placed around them.

1703. Lamp Resistances.

a. Where protective resistances are necessary in connection with automatic rheostats, incandescent lamps may be used, provided they do not carry or control the main current nor constitute the regulating resistance of the device.

b. When used as resistance, lamps shall be mounted in porcelain receptacles attached to noncombustible supports and shall be so arranged that they cannot have impressed upon them a voltage greater than that for which they are rated. They shall in all cases be provided with a name-plate, which shall be permanently attached beside the porcelain receptacle or receptacles and stamped with the wattage and voltage of the lamp or lamps to be used in each receptacle.

c. Incandescent lamps may be used for the purpose of resistances in series with other devices, by permission of the inspection department and when mounted in porcelain receptacles upon non-combustible supports and when so arranged that they cannot have impressed upon them a voltage greater than that for which they are rated.

ARTICLE 18. STORAGE OR PRIMARY BATTERIES.

1801. General.

a. Wiring and appliances supplied by storage or primary batteries shall be subject to the general requirements of this code which apply to wiring and appliances fed from generators developing the same difference of potential.

For battery installations for small isolated plants of less than 50 volts, see article 40 of this code.

1802. Special Requirements.

a. The battery room shall be thoroughly ventilated.

b. Wiring shall be exposed, and shall be installed in accordance with the requirements of section 501 of this code.

c. Storage batteries shall be mounted on non-absorptive, non-combustible insulators, such as glass or thoroughly vitrified glazed porcelain.

d. Metal susceptible to corrosion shall not be employed in the cell connections of storage batteries.

**ARTICLE 19. LIGHTNING ARRESTERS.****1901. In Stations.**

a. A lightning arrester shall be connected to each overhead wire entering a station.

b. Lightning arresters shall be located in readily accessible places, away from combustible materials and as near as practicable to the point where the wires enter the station.

c. Lightning arresters shall be well isolated from other equipment and, if of the oil-filled type, shall be placed in a fireproof room or compartment.

d. Lightning arresters shall be grounded as provided in article 9 of this code.

e. All choke coils, or other attachments inherent to the lightning protection equipment, shall have an insulation from the ground or other conductors at least equal to the insulation required at the points of the circuit in the station.

f. Kinks, coils and sharp bends in the wires between arresters and outdoor lines shall be avoided as far as practicable.

1902. Radio Equipment.

See article 37.

1903. Signal Systems.

See article 60.

1904. Grounding.

See section 903.

ARTICLE 30. CRANES AND HOISTS.**3001. General.**

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

3002. Wires.

a. Wires, other than bare collector wires, shall be of approved rubber-covered or of approved slow-burning type.

b. Rubber-covered wire shall be not smaller than No. 12.

c. Slow-burning wire shall be employed only between resistance and contact plates of rheostats or where exposed to severe external heat. Wires between resistances and contact plates shall conform to the requirements of section 1701, paragraph h, of this code, except that such wires, if exposed to moisture, shall be of the rubber-covered type.

3003. Installation of Wires.

a. Exposed wiring, other than collector wires, shall be supported 1 inch from the surface wired over, $2\frac{1}{2}$ inches apart for voltages up to 300, and 4 inches apart for voltages between 301 and 600; provided, however, that in dry places where space is limited each wire may be separately encased in approved flexible tubing securely fastened in place.

3004. Collector Wires.

a. Collector wires shall be secured at the ends by means of approved strain insulators, and shall be so mounted on approved insulators that the extreme limit of displacement of the wire will not bring the latter within less than $1\frac{1}{2}$ inches from the surface wired over.

b. Main collector wires carried along runways shall be rigidly and securely attached to insulating supports placed at intervals not exceeding 20 feet. When run horizontally, such wires shall be separated not less than 6 inches; when run otherwise, not less than 8 inches. Where necessary, intervals between insulating supports may be increased up to 40 feet, the separation between wires being increased proportionately.

c. Bridge collector wires shall be kept at least $2\frac{1}{2}$ inches apart and, where the span exceeds 80 feet, insulating saddles shall be placed at intervals not exceeding 50 feet.

It is recommended that the distance between wires be greater than $2\frac{1}{2}$ inches, where practicable.

d. Sizes of collector wire shall conform to the following table:

Distance Bet. Rigid Supports	Size of Wire
0—30 Feet	No. 6
31—60 "	" 4
Over 60 "	" 2

3005. Collectors.

a. Collectors shall be so designed as to reduce to a minimum the sparking between them and the collector wire.

3006. Switches and Cutouts.

a. The main collector wires shall be protected by a cutout and the circuit shall be controlled by a switch. The cutout and switch shall be so located as to be readily accessible from the floor.

b. Where cranes are operated from cabs, the cutout and switch specified in paragraph a of this section shall be inserted in the leads from the main collector wires, and shall be so located in the cab as to be readily accessible to the operator.

c. Where more than one motor is employed on a crane, each motor with its leads shall be separately protected by an automatic cutout in accordance with the provisions of articles 8 and 10 of this code; provided, however, that where two motors operate a single hoist, carriage, truck or bridge and are controlled as a unit by one controller, the pair of motors with their leads may be protected by a single automatic cutout. This cutout shall be located in the cab if there is one.

3007. Controllers.

a. If the crane operates over readily combustible material, the resistances shall be placed in a well ventilated cabinet composed of non-combustible material, so constructed that it will not emit flame or molten metal.

If the resistances are located in a cab, this requirement may be met by constructing the latter of non-combustible material enclosing the sides of the cab from the floor to a point at least 6 inches above tops of the resistances.

3008. Grounding.

a. Motor frames, tracks and the entire frame of the crane shall be grounded as prescribed in article 9 of this code.

ARTICLE 31. ELEVATORS.**3101. General.**

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

3102. Wires and Cables.

a. The flexible or traveling cables of the operating and lighting circuits shall be of approved rubber-covered types, and shall have a substantial flameproof outer covering. They may be run in properly bushed approved conduit where attached to the car, or may be run exposed and attached directly to the outer surface of the car extending thence to switches or fixtures within the car.

b. Conductors for lighting cables shall be not smaller than No. 14, and for control cables not smaller than No. 16.

c. Conductors, other than lighting and control cables, where located in shafts shall be encased in approved conduit or armor. Split tees and elbows may be used on conduit work except where the pipe contains feeders.

d. Signal wires, other than those having receiving energy from primary batteries or approved bell transformers, shall be encased in approved conduit equipped with approved terminal bushings having an individual outlet hole for each wire.

e. The wires of motor circuits between motors and control panel may be grouped together without any extra insulation of the separate wires, provided the complete group is either taped or corded and painted in a manner to make same a rigid, self-supporting form, not over 3 feet long and not in a position liable to mechanical damage or subject to a temperature in excess of 120 degrees F. (49 degrees C.)

f. All wires between main circuit resistances and the back of control panels shall have a flameproof outer covering as prescribed in section 1701, paragraph h, of this code. All other wiring on control panels may be of the rubber-covered type, provided the wires are laid flat against the panel and held in such a manner as to be immovable and free from mechanical injury, and not subjected to a temperature exceeding 120 degrees F. (49 degrees C.)

In a few cases it may be necessary to bunch wires of the operating circuit on the rear of the control panel. This is permitted, provided the wires are taped, and painted with an insulating paint.

3103. Switches.

a. A switch disconnecting all ungrounded wires of the motor circuit shall be located within sight of the motor, unless permission to locate it elsewhere is given by the inspection department.

b. In garages, hatch limit switches and other spark-emitting devices shall be placed at least 4 feet above the line of the lowest floor level.

3104. Grounding.

a. Conduit or armored cable attached to elevator cars need not be grounded.

b. Motor and motor generator sets mounted on metal beams which form part of the structural metal frame of a building shall be deemed to be grounded.

c. The shifting cable need not be grounded if provided with approved strain insulators.

ARTICLE 32. EXTRA-HAZARDOUS LOCATIONS.**3201. General.**

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. Extra-hazardous locations shall comprise rooms or compartments in which highly inflammable gases, liquids, mixtures or other substances are manufactured, used or stored in other than original containers.

See also

Motors in the presence of combustible dust, section 1003, paragraphs b, and c.
Sockets and receptacles over specially inflammable stuff, section 1404, paragraphs b, and c.

Externally wired fixtures in the presence of especially inflammable material, section 1403, paragraph c.

3202. Wiring.

a. Armored cable or conduit shall be employed as the wiring method.

3203. Enclosure of Lamps and Devices.

a. Lamps shall be inclosed in guarded vapor-proof globes.

b. Devices and apparatus which tend to create sparks or arcs and thus ignite the highly inflammable contents shall not be placed in extra-hazardous locations unless such devices and apparatus are of the totally enclosed type, especially approved for the location.

3204. Special precautions.

a. Switches and motors shall not be located under any hood or in any vent pipe.

ARTICLE 33. GARAGES.**3301. General.**

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. A garage shall be deemed to be a building or portion of a building in which one or more self-propelled vehicles carrying volatile, inflammable liquid for fuel or power are kept for use, sale, storage, rental, repair, exhibition or demonstration purposes, and all that portion of a building which is on or below the floor or floors on which such vehicles are kept and which is not separated therefrom by tight, unpierced fire walls and fire resisting doors.

3302. Wiring.

a. Where floor area is sufficient to permit the storage of more than two vehicles, approved conduit or approved armored cable shall be employed as the wiring method; provided, however, that approved metal moulding may be employed in offices and show rooms. Where the floor space will accommodate not more than two vehicles, any approved wiring method may be employed.

b. Outlet and junction boxes shall be located at least 4 feet above the floor.

c. Approved reinforced cord shall be used for pendant lamps.

3303. Portables.

a. Approved portable cord designed for rough usage, such as hard service cord, stage cable or packinghouse cord, shall be used to connect portable lamps, motors or other appliances. The portable cord shall carry the male end of an approved pin-plug connector, or equivalent, the female end being of such design or so hung that the connector will break apart readily at any position of the cable. The connector shall be kept at least 4 feet above the floor.

b. Portable lights shall be equipped with approved keyless sockets of moulded composition or metal-sheathed porcelain type, the socket being provided with handle, hook and substantial guard.

3304. Charging Cables.

a. Approved stage cable shall be used for charging purposes.

b. Connectors shall be of approved type and of at least 50 amperes capacity, and shall be so designed or so hung that at least one will break apart readily at any position of the cable. Live parts shall be guarded from accidental contact. The fixed, or wall, connector shall be kept at least 4 feet above the floor and, if not located on a switchboard or charging panel, shall be guarded from accidental contact.

3305. Switchboards and Charging Panels.

a. Where spark producing devices are not located at least 4 feet above the floor, or placed in vaporproof enclosures, switchboards and charging panels shall be located in a room or inclosure provided for the purpose.

3306. Generators and Motors.

a. Generators or motors which do not actually form part of the vehicle



equipment shall be of the totally enclosed type, or located at least 4 feet above the floor. When the motor is located more than 4 feet above the floor and is not of the totally enclosed type, it shall be equipped with wire screens of not less than No. 14 mesh, placed over openings at the commutator end.

3307. Special Precautions.

a. Cutouts, switches and receptacles shall be placed at least 4 feet above the floor. Cutouts and switches attached to portable apparatus shall be placed in approved cabinets.

b. Cutouts and switches shall be enclosed in approved boxes or cabinets unless placed on switchboards or charging panels in the manner prescribed in section 3305 of this code.

c. Hatch limit switches of elevators shall be located at least 4 feet above the lowest floor level.

ARTICLE 34. MOTION PICTURE STUDIOS.

3401. General.

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. A motion picture exchange, factory, laboratory or studio shall be deemed to be that building or portion of a building in which moving picture films are manufactured, exposed, developed, printed, rewound, repaired, stored, etc.

3402. Wiring.

a. Approved conduit, metal raceway or armored cable shall be employed as the wiring method.

b. Side wall lamp outlets shall consist of receptacles enclosed in approved outlet boxes equipped with open-end guards riveted to the covers of the boxes.

c. Pendant lamps shall be suspended by means of approved reinforced cords, armored cord or armored cable and shall be protected by substantial wire guards.

d. Each lamp portable shall be composed of approved hard service flexible cord, approved composition or approved metal-sheathed porcelain keyless socket, handle, hook and substantial guard. The cord shall carry the male end of an approved pin plug connector or equivalent, the female end being of such design or so hung that the connector will break apart readily at any position of the cord. The connector shall be kept at least 1 foot above the floor.

e. At patching tables, approved composition or metal-sheathed porcelain keyless sockets shall be employed and shall be equipped with suitable means to guard lamps from mechanical injury.

f. In film-storage vaults lamps shall be installed on rigid fixtures and inclosed in vaporproof globes. Such lamps shall be controlled by a double pole switch, located outside the vault. Electric motors or portable lamps shall not be placed in the vault.

g. Motors shall be of the enclosed type. Rheostats shall be placed in cabinets which enclose all live parts, leaving only the operating handles exposed.

ARTICLE 35. MOTION PICTURE PROJECTORS AND EQUIPMENT.

3501. General.

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. The so-called professional types of projectors, such as are commonly used in theatres and motion picture houses, shall be located in fireproof booths.

The professional projector employs a film which is 1½ inches wide and has on each edge 5.4 perforations per inch.

c. Projectors of the non-professional or miniature type, if employing only approved slow-burning (cellulose acetate or equivalent) film, may be operated without a booth.

3502. Projectors of Professional Type.

a. The arc lamp house shall be composed entirely of metal having a thickness not less than No. 24 U. S. sheet metal gauge (.025 inch) except where the use of approved insulating material is necessary. Details of construction shall conform to the requirements of section 1501 of this code. An incandescent lamp inclosure shall conform to the above requirements so far as may be practicable.

b. Wires not smaller than No. 4 shall be employed to supply the projector outlet.

c. Rheostats, transforming devices and any substitute therefore, shall be of types expressly designed and approved for the purpose. They shall be judged as component parts of the projector equipment as to installation and location.

d. Top and bottom magazines shall be so designed in some approved manner as to prevent the entrance of flame. No solder shall be used in their construction. The front side of each magazine shall consist of a door swinging horizontally and equipped with a substantial latch.

e. An automatic shutter shall be provided and permanently attached to the gate frame. The construction of the shutter shall be such as to shield the film from the beam of light whenever the film is not running at operating speed.

f. Motor-driven projectors shall be of a type expressly designed and approved for such operation. Such projectors shall be used only by permission of the inspection department, and when the projector is in charge of a qualified operator.

3503. Enclosures for Projectors of Professional Type.

a. The enclosure shall be constructed of suitable fireproof material, shall be properly lighted and shall be large enough to permit the operator to walk freely on either side of or back of the projector.

b. Ventilation shall be provided by means of a vent pipe having a cross-sectional area of not less than 78 square inches, and such vent pipe shall lead to the outside of the building or to a special non-combustible flue. The vent pipe shall be kept at least 1 inch from combustible material or separated therefrom by approved non-combustible, heat-insulating material not less than ½ inch in thickness.

c. Draft in vent pipe shall be maintained by an exhaust fan having a capacity of at least 50 cubic feet per minute. The fan motor shall be so installed that fumes passing through the flue cannot come in contact with it, shall be connected to the emergency service and shall not be controlled from the booth.

d. Openings in the enclosure shall be equipped with doors or shutters of fire-resisting material equivalent to that of the enclosure. Such door or shutter shall entirely close its opening, and shall be arranged to be held in the closed position by spring hinges or equivalent devices.

e. Rewinding of films shall be performed in the enclosure if practicable;

otherwise, in a separate fireproof room provided for the purpose. Extra films shall be kept in individual metal boxes having tight-fitting covers. Reels carrying films under examination or in process of rewinding shall be enclosed in magazines or approved metal boxes similar to those of the projector, and not more than 2 feet of film shall be exposed.

f. A motor-generator installed in the projector enclosure shall have the commutator end or ends suitably protected from mechanical injury by wire screens or other suitable means.

3504. Projectors of Non-professional Type.

a. Motion picture projecting machines not intended for installation and use in permanent and ventilated booths shall be permitted only for projecting film of an approved slow-burning (cellulose acetate or equivalent) type.

b. All such equipment shall be expressly approved, including current-controlling devices and other essential operating parts.

c. The source of illumination of the projected view shall be an incandescent lamp of a pattern expressly intended for stereopticon use or for motion picture projection.

d. Rheostats, transformers, switches and other current controlling devices shall be attached to and form an integral part of the projector or its housing and shall have no live parts exposed.

e. The slow-burning (cellulose acetate or equivalent) film shall have a permanent distinctive marker for its entire length identifying the manufacturer and the slow-burning character of the film stock.

f. Machines shall be marked with the name or trademark of the maker, and with the voltage and current rating for which they are designed, and shall also be plainly marked, "For use with slow-burning films only."

ARTICLE 36. ORGANS.

3601. General.

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19 inclusive, of this code. They shall be deemed to apply to those electrical circuits and parts of electrically operated organs which are employed for the control of the sounding apparatus and keyboards.

3602. Source of Energy.

a. The source of energy shall be either a self-excited generator rated at not over 15 volts, or a primary battery.

b. The generator shall either be permanently and effectively insulated both from ground and from the motor driving it, or both generator and motor frames shall be grounded as prescribed in article 9 of this code.

3603. Cables.

a. All wires, except common return wires inside the organ proper, the organ sections and the organ console, shall be cabled.

b. The separate wires of the cable shall be not smaller than No. 26, and shall have either rubber, cotton or silk insulation. The cotton or silk may be saturated with paraffine, if desired.

c. The separate wires shall be either bunched or cabled. In either event they shall be enclosed in one or more braided outer coverings. A tape may be substituted for an inner braid. The outside covering of a cable not run in conduit shall either be flameproof, or covered with a closely wound fireproof tape.

d. The common return wire shall be not smaller than No. 14, shall be of either the rubber-covered or the slow-burning type and shall not be contained in the cable. It may be run in contact with the cable or placed under an additional covering inclosing both cable and return wire.

3604. Workmanship and Material.

a. All wiring and devices within the organ or any of its parts shall be neatly disposed and securely fastened.

It is not found to be either necessary or feasible in organ structures to require the use of non-combustible, non-absorptive insulating material for the supports or enclosures of current carrying parts.

b. Cables between parts of the organ and between the console and the organ shall be installed in a workmanlike manner, shall be securely fastened in position and shall be kept from contact with other wires. Conduit may be used, but shall not be required.

3605. Fuses.

a. Circuits shall be so subdivided and protected at the source by approved enclosed fuses of not over 30 amperes rating that every wire will be protected by one or more such fuses. No other fuses in the organ circuits shall be required.

ARTICLE 37. RADIO EQUIPMENT.

3701. General.

a. The requirements of this article shall not apply to equipment installed on shipboard, but shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. Transformers, voltage reducers, keys and other devices employed shall be of types expressly approved for radio operation.

3702. For Receiving Stations Only.

a. Antenna and counterpoise outside buildings shall be kept well away from all electric light or power wires of any circuit of more than 600 volts, and from railway, trolley or feeder wires, so as to avoid the possibility of contact between the antenna or counterpoise and such wires under accidental conditions.

b. Antenna and counterpoise where placed in proximity to electric light or power wires of less than 600 volts, or signal wires, shall be constructed and installed in a strong and durable manner, and shall be so located and provided with suitable clearances as to prevent accidental contact with such wires by sagging or swinging.

c. Splices and joints in the antenna span shall be soldered unless made with approved splicing devices.

d. The preceding paragraphs, a, b, and c, shall not apply to light and power circuits used as receiving antenna, but the devices used to connect the light and power wires to radio receiving sets shall be of approved type.

e. Lead-in conductors shall be of copper, approved copper-clad steel or other metal which will not corrode excessively, and in no case shall they be smaller than No. 14, except that bronze or copper-clad steel not less than No. 17 may be used.

f. Lead-in conductors on the outside of buildings shall not come nearer than 4 inches to electric light and power wires unless separated therefrom by a continuous and firmly fixed nonconductor which will maintain permanent separation. The non-conductor shall be in addition to any insulating covering on the wire.

g. Lead-in conductors shall enter the building through a non-combustible, non-absorptive insulating bushing slanting upward toward the inside.

h. Each lead-in conductor shall be provided with an approved protective device (lightning arrester) which will operate at a voltage of 500 volts or less, properly connected and located either inside the building at some point between the entrance and the set which is convenient to a ground, or outside the building as near as practicable to the point of



entrance. The protector shall not be placed in the immediate vicinity of easily ignitable stuff, or where exposed to inflammable gases or dust or flyings of combustible materials.

i. If an antenna grounding switch is employed, it shall in its closed position form a shunt around the protective device. Such a switch shall not be used as a substitute for the protective device.

It is recommended that an antenna grounding switch be employed, and that in addition a switch rated at not less than 30 amperes, 250 volts, be located between the lead-in conductor and the receiver set.

j. If fuses are used, they shall not be placed in the circuit from the antenna through the protective device to ground.

Fuses are not required.

k. The protective grounding conductor may be bare and shall be of copper, bronze or approved copper-clad steel. The grounding conductor shall be not smaller than the lead-in conductor and in no case shall be smaller than No. 14 if copper nor smaller than No. 17 if of bronze or copper-clad steel. The grounding conductor shall be run in as straight a line as possible from the protective device to a good permanent ground. Preference shall be given to water piping. Other permissible grounds are grounded steel frames of buildings or other grounded metal work in the building, and artificial grounds such as driven pipes, rods, plates, cones, etc. Gas piping shall not be used for the ground.

l. The protective grounding conductor shall be guarded where exposed to mechanical injury. An approved ground clamp shall be used where the grounding conductor is connected to pipes or piping.

m. The grounding conductor may be run either inside or outside the building. The protective grounding conductor and ground, installed as prescribed in the preceding paragraphs k and l, may be used as the operating ground.

It is recommended that in this case the operating grounding conductor be connected to the ground terminal of the protective device. If desired, a separate operating grounding connection and ground may be used, the grounding conductor being either bare or provided with an insulating covering.

n. Wires inside buildings shall be securely fastened in a workmanlike manner and shall not come nearer than 2 inches to any electric light or power wire not in conduit unless separated therefrom by some continuous and firmly fixed non-conductor, such as porcelain tubes or approved flexible tubing, making a permanent separation. This non-conductor shall be in addition to any regular insulating covering on the wire. Storage battery leads shall consist of conductors having approved rubber insulation.

It is recommended that the circuit from the storage battery be properly protected by fuses as near as possible to the battery.

3703. For Transmitting Stations Only.

a. Antenna and counterpoise outside buildings shall be kept well away from all electric light or power wires of any circuit of more than 600 volts, and from railway trolley or feeder wires, so as to avoid the possibility of contact between the antenna or counterpoise and such wires under accidental conditions.

b. Antenna and counterpoise where placed in proximity to electric light or power wires of less than 600 volts, or signal wires, shall be constructed and installed in a strong and durable manner, and shall be so located and provided with suitable clearances as to prevent accidental contact with such wires by sagging or swinging.

c. Splices and joints in the antenna and counterpoise span shall be soldered unless made with approved splicing devices.

d. Lead-in conductors shall be of copper, bronze, approved copper-clad steel or other metal which will not corrode excessively and in no case shall be smaller than No. 14.

e. Antenna and counterpoise conductors and wires leading therefrom to ground switch, where attached to buildings, shall be firmly mounted 5 inches clear of the surface of the building, on non-absorptive insulating supports such as treated pins or brackets, equipped with insulators having not less than 5 inches creepage and air-gap distance to inflammable or conducting material. Suspension type insulators may be used.

f. In passing the antenna or counterpoise lead-in into the building a tube or bushing of non-absorptive insulating material, slanting upward toward the inside, shall be used and shall be so insulated as to have a creepage and air-gap distance of at least 5 inches to any extraneous body. If porcelain or other fragile material is used it shall be protected where exposed to mechanical injury. A drilled window pane may be used in place of a bushing provided 5 inches creepage and air-gap distance is maintained.

g. A double-throw knife switch having a break distance of at least 4 inches and a blade not less than $\frac{1}{2}$ inch by $\frac{1}{2}$ inch shall be used to join the antenna and counterpoise lead-in to the grounding conductor. The switch may be located inside or outside the building. The base of the switch shall be of non-absorptive insulating material. This switch shall be so mounted that its current-carrying parts will be at least 5 inches clear of the building wall or other conductors. The conductor from grounding switch to ground shall be securely supported.

It is recommended that the switch be located in the most direct line between the lead-in conductors and the point where grounding connection is made.

h. Antenna and counterpoise conductors shall be effectively and permanently grounded at all times when station is not in actual operation and unattended, by a conductor at least as large as the lead-in and in no case smaller than No. 14 copper, bronze, or approved copper-clad steel. This grounding conductor need not have an insulated covering or be mounted on insulating supports. The grounding conductor shall be run in as straight a line as possible to a good permanent ground. Preference shall be given to water piping. Other permissible grounds are the grounded steel frames of buildings and other grounded metal work in buildings and artificial grounding devices such as driven pipes, rods, plates, cones, etc. The grounding conductor shall be protected where exposed to mechanical injury. A suitable approved ground clamp shall be used where the ground conductor is connected to pipes or piping. Gas piping shall not be used for the ground.

It is recommended that the protective grounding conductor be run outside the building.

i. The radio-operating grounding conductor shall be of copper strip not less than $\frac{3}{8}$ inch wide by $\frac{1}{8}$ inch thick, or of copper, bronze, or approved copper-clad steel having a periphery, or girth, of at least $\frac{3}{4}$ inch, such as a No. 2 wire, and shall be firmly secured in place throughout its length.

j. The operating grounding conductor shall be connected to a good permanent ground. Preference shall be given to water piping. Other permissible grounds are grounded steel frames of buildings or other grounded metal work in the building, and artificial grounding devices such as driven pipes, rods, plates, cones, etc. Gas piping shall not be used for the ground.

k. When the current supply is obtained directly from lighting or power circuits, the conductors whether or not lead covered shall be installed in approved metal conduit, armored cable or metal raceways.

l. In order to protect the supply system from high-potential surges and kick-backs there shall be installed in the supply line as near as possible to each radio-transformer, rotary spark gap, motor and generator in motor generator sets and other auxiliary apparatus one of the following:

1. Two condensers (each of not less than $\frac{1}{2}$ microfarad capacity and capable of withstanding 600 volt test) in series across the line with mid-point between condensers grounded; across (in parallel with) each of these condensers shall be connected a shunting fixed spark-gap capable of not more than $\frac{1}{8}$ inch separation.

2. Two vacuum tube type protectors in series across the line with the mid-point grounded.

3. Resistors having practically zero inductance connected across the line with mid-point grounded.

It is recommended that this third method be not employed where there is a circulation of power current between the mid-point of the resistors and the protective ground of the power circuit.

4. Electrolytic lightning arresters such as the aluminum cell type.

ARTICLE 38. SIGNS AND OUTLINE LIGHTING.

3801. General.

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

3802. Material.

a. Metal used in the construction of sign boxes, cabinets or outline troughs shall be not less than No. 28 U. S. sheet metal gauge (.0156 inch). It shall be galvanized, treated with at least three coats of anti-corrosive paint, or otherwise suitably protected from corrosion.

b. With the exception of wood employed for the external decoration of signs and kept at least 2 inches distant from the nearest socket or receptacle, signs shall be constructed entirely of metal or other approved non-combustible material.

c. The design shall be such as to afford ample strength and rigidity, to render the box or trough practically weatherproof, to enclose all terminals and wiring other than the leads, and to provide drainage for each compartment by means of one or more holes, each not less than $\frac{1}{4}$ inch in diameter.

d. A separate, enclosed, accessible weatherproof approved box or cabinet shall be provided to contain cutouts, flashers, non-weatherproof transformers or other similar devices placed on or within the body or structure of a sign or on the exterior of a building.

e. Raceways shall not be employed for outline lighting.

3803. Sockets and Receptacles.

a. Sockets and receptacles for sign and outline lighting shall be of the keyless porcelain type, and if for sign use shall be so designed as to afford permanent and reliable means to prevent turning. Terminals of sign receptacles shall be kept at least $\frac{1}{2}$ inch from metal of the sign; provided, however, that where open work is employed as the wiring method, this separation shall be at least 1 inch. Miniature receptacles shall not be employed for outdoor work.

3804. Wiring.

a. Wire of approved rubber-covered type, and not smaller than No. 14, shall be used.

b. Wires shall be neatly run, and so disposed and fastened as to be mechanically secure.

c. Wires shall be soldered to terminals of receptacles, and exposed parts of wires and terminals shall be treated to prevent corrosion.

d. Approved bushings shall be employed to protect wires passing through walls or partitions of the structure. Sign leads not encased in conduit or metal armor may be cabled before passing through non-combustible, non-absorptive bushings.

e. Wires on outside of sign structure, except as provided in section 3805 of this code, shall be enclosed in approved conduit or metal armor. Where armor is employed an approved lead sheath shall be placed over the wire insulation.

f. Outline lighting shall be protected by its own cutout and controlled by its own switch.

g. Circuits shall be so arranged that the number of outlets and the lamps connected to them shall in no case be such as to place more than 15 amperes on the branch circuit fuse.

3805. Open Wiring.

a. Open work may be employed as the wiring method for outline lighting and for signs on roofs or open ground, where not subject to mechanical injury.

b. Where wires are connected to approved receptacles which hold them at least 1 inch from the surface wired over, and which are placed at intervals not exceeding 1 foot, the receptacles themselves shall be considered to afford the necessary support and spacing of the wires. Where the interval between receptacles exceeds 1 foot but is less than 2 feet, an additional non-combustible, non-absorptive insulator maintaining a separation and spacing equivalent to the receptacle shall be used.

c. Where flexible tubing must be employed in outline lighting, the ends shall be sealed and painted with a moisture repellant and the tubing shall be kept at least $\frac{1}{2}$ inch from the surface wired over.

3806. Grounding.

a. Troughs used for outline lighting shall be grounded as provided in article 9 of this code.

ARTICLE 39. THEATRES; INCLUDING MOTION PICTURE HOUSES.

3901. General.

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. A theatre shall be deemed to be that building, or part of a building, regularly or frequently used for dramatic, operatic, motion picture or other performances or shows, or which has a stage for such performances used with scenery or other stage appliances.

c. Emergency lights shall be deemed to be exit lights and all lights in lobbies, stairways, corridors and other portions of the theatre to which the public has access, which are normally kept lighted during the performance.

3902. Services.

a. Where the supply can be obtained from two separate street mains, two separate and distinct services shall be installed, one service being of sufficient capacity to supply current for the entire equipment of the theatre, the other service being of sufficient capacity to supply current for all emergency lights. Where the supply cannot be obtained from two separate sources, the feed for the emergency lights shall be taken from a point on the street side of the main service fuses.



b. Where the source of supply is an isolated plant located in the building, an auxiliary service of capacity sufficient to supply all emergency lights shall be obtained from some outside source, or from an adequate storage battery installed upon the premises.

3903. Auditorium.

a. Approved conduit, metal raceway or armored cable shall be employed as the wiring method.

b. Receptacles shall be inclosed in boxes.

c. Not more than one set of fuses shall be interposed between service fuses and exit lights.

d. Emergency lights shall not be connected to or controlled by the stage lighting control, but from the lobby or other convenient place in the front of the theatre.

e. All fuses shall be enclosed in approved cabinets.

3904. Stage.

a. Approved conduit or armored cable shall be employed as the wiring method.

b. The switchboard shall be of the dead-front type, and shall carry a metal hood running the full length of the board and protecting the latter from falling objects.

c. Dimmers shall be so connected that they will be dead when their respective circuit switches are open.

d. Footlights shall be wired by either the conduit or the armored cable method, receptacles being inclosed in approved boxes, or the wires shall be encased in metal trough composed of No. 20 U.S. sheet metal gauge (.0375 inch), treated to prevent oxidation. Conductors shall be soldered to receptacle terminals, which shall be kept at least $\frac{1}{2}$ inch from the metal of the trough.

e. Footlights, border lights and proscenium side lights shall be so wired that the number of outlets and the lamps connected to them shall in no case be such as to place more than 15 amperes on a branch circuit fuse.

f. Borders and proscenium sidelights shall be constructed as prescribed in paragraph d of this section, shall be suitably stayed and supported, and shall be so designed that the flanges of the reflectors or other adequate guards will protect the lamps from mechanical injury and from accidental contact with scenery or other combustible material.

g. Border cables shall be of approved type and suitably supported. They shall be employed only where flexibility is required.

h. Approved slow-burning wire shall be used for wiring the border.

i. Borders shall be suitably suspended. If wire rope is used each length shall be insulated by at least one strain insulator, placed close to the border.

j. Stage and gallery pockets shall be of approved type, insulated from ground and controlled from the switchboard. Feeds for arc pockets shall be not smaller than No. 6, and the receptacles shall have a capacity of not less than 35 amperes. Feeds for incandescent pockets shall be not smaller than No. 12, and the receptacles shall have a capacity of not less than 15 amperes. Feeds to pockets shall be of ample size to supply all receptacles therein at full rating. Plugs for arc and incandescent pockets shall not be interchangeable.

k. Lamps installed in scene docks shall be so located and guarded as to be free from mechanical injury.

l. Curtain motors shall be of the inclosed type.

m. Where stage fuse dampers are released by an electrical device, the circuit operating the latter shall be normally closed, and shall be controlled by at least two approved single pole switches enclosed in approved iron boxes having self-closing doors without locks or latches, one switch being placed at the electrician's station and the other where designated by the inspection department. The device shall be designed for the full voltage of the circuit to which it is connected, no resistance being inserted. It shall be located in the loft above the scenery and shall be enclosed in a suitable iron box having a tight, self-closing door.

3905. Dressing Rooms.

a. Approved conduit or armored cable shall be employed as the wiring method.

b. Pendants for lights shall be composed of approved reinforced cord, armored cable or armored cord.

c. Lamps shall be protected by approved guards sealed or locked in place.

3906. Portable Arc Lamps.

a. Arc lamps shall be substantially constructed entirely of metal not less than No. 20 U.S. sheet metal gauge (.0375 inch), except where approved insulating material is necessary. The design shall be such as to provide proper ventilation while retaining sparks, and to prevent carbons or other live parts of lamp from making contact with metal of hood.

b. Hoods for other than lens lamps shall have the front opening equipped with a self-closing hinged door frame carrying either wire gauze or glass. Hoods for lens lamps may have a stationary front, and a solid door on either back or side.

c. Mica shall be used for the insulation of the lamp frame.

d. Arc lamp frames and standards shall be so installed and guarded as to prevent their becoming grounded.

e. The switch on the standard shall be of such design that accidental contact with any live part will be impossible.

f. Stranded connections in lamp and at switch and rheostat shall be provided with approved lugs.

g. Rheostats shall be enclosed in a substantial properly ventilated metal case affording a clearance of at least 1 inch between case and resistance element. If the rheostat is mounted on the standard, a clearance of 3 inches above the floor shall be maintained.

h. A qualified operator shall be employed for each lamp, or for each two lamps not more than 10 feet apart and so placed that one operator can properly watch and care for both.

3907. Portable Bunches.

a. Substantial metal shall be employed and the wiring shall not be exposed.

b. Where the cable passes through the metal, an approved bushing shall be employed, and the cable shall be so anchored as to relieve the connections of any mechanical strain.

3908. Portable Strips.

a. Portable strips shall conform to the requirements of paragraphs d, e, and f of section 3904, of this code.

b. Where the cable passes through the metal an approved bushing shall be employed, and the cable shall be so anchored as to relieve the connections of serious mechanical strain.

3909. Portable Plugging Boxes.

a. The construction shall be such that no current-carrying part will be exposed.

b. Each receptacle shall have a current carrying capacity of 30 amperes, and shall be protected by approved fuses mounted on slate or marble bases enclosed in a fireproof cabinet equipped with self-closing doors.

c. Bus-bars shall have a current carrying capacity equal to the sum of the ampere ratings of all the receptacles. Approved lugs shall be provided for the connection of the master cable.

3910. Portable Conductors.

a. Pin-plug connectors shall be so designed that tension on the cable will not cause serious mechanical strain on the connections. The female half shall be attached to the live end of the cable.

b. Flexible conductors used from receptacles to arc lamps, bunches and other portable equipments shall be approved stage cable except that for the purpose of feeding a stand lamp under conditions where conductors are not liable to severe mechanical injury, an approved reinforced cord may be used, provided cut-out designed to protect same is not fused over 15 amperes capacity.

3911. Lights on Scenery.

a. Brackets shall be wired internally, and the fixture stem shall be carried through to the back of the scenery, where a suitable bushing shall be placed on the end of the stem. Fixtures shall be securely fastened in place.

3912. String or Festooned Lights.

a. Joints in wiring shall be staggered where practicable.

b. Lamps enclosed in lanterns or similar devices shall be equipped with approved guards.

3913. Special Electrical Effects.

a. Devices used for simulating lightning, waterfalls, etc., shall be so constructed and located that flames, sparks, etc., cannot come in contact with combustible material.

ARTICLE 40. SMALL ISOLATED PLANTS.

4001. General.

a. The requirements of this article shall be deemed to be additional to, or amendatory of, those prescribed in articles 1 to 19, inclusive, of this code.

b. This article shall be deemed to apply particularly to isolated plants which employ as their prime mover a stationary internal-combustion engine, with its necessary fittings, connected to an electric generator either with or without an auxiliary storage battery with its control devices, and operating at a potential of less than 50 volts.

c. Attention shall be given to the relatively low voltage at which these plants operate, thus requiring a greater current for equivalent energy and making necessary a greater ampere capacity of conductors, fittings, devices and appliances, as compared with those of the standard 0-600 volt classification used on commercial circuits.

4002. Sockets and Receptacles.

a. Lamp sockets and receptacles shall be of the 250 volts, 250 watt classification and shall be rated at not over $3\frac{1}{2}$ amperes.

b. Lamp sockets and receptacles shall be rated at not less than 40 watts each, for purposes of installation.

4003. Automatic Cutouts.

a. Fuses shall be so placed that no set of small motors, small heating appliances or incandescent lamps, nor more than 8 lamp sockets or receptacles, requiring more than 320 watts, shall be dependent upon one cutout.

b. The fuses in the branch circuit shall not exceed 10 amperes rating.

4004. Batteries.

a. Batteries shall be located in rooms or spaces having natural means of ventilation.

b. Battery jars and cells, if not composed of insulating material such as glass or hard rubber, shall be mounted on insulating supports of glass or porcelain.

4005. Grounding.

a. The grounding of circuits or equipment shall not be required.

ARTICLE 50. SYSTEMS AND VOLTAGES OF OVER 600 VOLTS.

5001. Series Arc Lighting.

a. Constant current systems shall not be installed in buildings, except by permission of the inspection department.

b. Wires shall be of approved rubber-covered type and shall be kept in plain sight except where the inspection department requires that they be encased.

c. Wires shall be supported on glass or porcelain insulators which rigidly separate the wires at least 8 inches and maintain them at least 1 inch from the surface wired over. This requirement shall not apply to locations where such separations are impracticable, as inside lamps, on hanger boards, etc.

d. Wires on side walls shall be encased in a boxing as provided in section 501, paragraph o, of this code.

e. Wires crossing floor timbers in cellars or rooms where they might be exposed to injury shall be installed on running boards or protected by guard strips as provided in section 501, paragraph m, of this code.

f. The service shall enter through an approved double-contact switch, mounted in a moisture-proof non-combustible case, so located as to be readily accessible to police or firemen. This switch shall be of the indicating type, shall close the main circuit and disconnect the branch wires when turned "off" and shall be so designed that it will automatically continue its action when once started. It shall prevent an arc between the points under all circumstances.

g. Arc lamps shall conform generally to the requirements of article 1501, of this code. When hanger boards are not used, lamps shall be hung from insulating supports other than their conductors.

h. Incandescent lamps shall be suspended from hanger boards by rigid pipes, and shall not be attached to gas fixtures. Each lamp shall be provided with an automatic cutout. No electro-magnetic switching device shall be employed, nor shall the lamps be connected in multiple-series or series-multiple.

5002. Vacuum Tube Systems.

a. The tube shall be so installed as to be free from mechanical injury or contact with inflammable material. Coils and regulating apparatus shall be mounted on a slate base and enclosed in a well ventilated, grounded, approved steel cabinet having walls not less than $\frac{1}{10}$ inch in thickness, the ventilation being so designed as to prevent the emission of flame or sparks.

b. Wiring leading to the above cabinet shall conform to the requirements of article 5 of this code, if such wires operate at a potential not exceeding 300 volts.

5003. Wiring.

a. Wires operating at a potential exceeding 5000 volts shall not be installed in or above buildings other than central stations, sub-stations or transformer vaults.

b. Elsewhere than in central stations, sub-stations and generator, transformer, switching and motor rooms, all apparatus and wiring connected to the high voltage circuits shall be completely enclosed by substantial shields or casings, grounded as prescribed in article 9 of this



code; and the conduit shall properly enter and be secured to such shield or casing, or to suitable terminal boxes secured or bolted to the casing.

c. Generator, switching and motor rooms shall be securely locked, or other provision shall be made to limit access only to qualified persons.

d. Elsewhere than in central stations, sub-stations and generator, transformer, switching and motor rooms, the wiring shall consist of approved multiple-conductor, grounded metal sheathed cable enclosed in approved grounded conduit. Where the cable is not exposed to moisture, the metal sheath may be omitted by permission of the inspection department.

Where moisture is absent, the metal sheath need not be continued over splices; but where the metal sheath is required over the rest of the cable the ends of the sheath shall be belled out and bonded around the splices by No. 6 copper wire and ground clamps.

e. Air-break disconnectors shall be installed between oil switches used as service switches and the supply wires.

f. Where a cable emerges from its metal sheath, the insulation of the several conductors shall be thoroughly protected from moisture and mechanical injury by a pothead or equivalent device.

g. Open work may be employed in central stations, sub-stations, generator, transformer and switching rooms and motor rooms adjoining an outside wall where the wires entering the motor room are not in conduit, provided the wires are rigidly supported on glass or porcelain insulators which keep them at least 1 inch from the surface wired over and 8 inches apart except at apparatus and devices.

Rigid supporting requires supports about $4\frac{1}{2}$ feet apart when wiring along flat surfaces under ordinary conditions.

5004. Motors.

a. Motors operating at a potential exceeding 2500 volts to ground shall not be installed elsewhere than in central stations, sub-stations and generator and motor rooms.

5005. Transformers and Apparatus.

a. Transformers installed in central stations and sub-stations shall be so located that fire and smoke from burning coils or boiling oil will do no harm.

It is recommended that air cooled transformers be isolated as much as possible, and that, if air blast is employed, the ducts be fireproof.

It is further recommended that oil-filled transformers be placed in a compartment constructed in accordance with section 5007 of this code.

b. Transformers shall not be installed in buildings other than central stations or sub-stations, except by permission of the inspection department. Where such permission has been granted, transformers shall be located as near as possible to the point at which the primary wires enter the building and shall be contained in an enclosure of fire-resistive material large enough to provide an air space of at least 6 inches on every side of the transformers. This enclosure shall be securely locked, access being allowed only to authorized persons, and shall be thoroughly ventilated.

It is recommended that ventilation be secured by means of a chimney or flue leading out of doors.

c. Transformer cases shall be grounded as provided in article 9 of this code; provided, however, that cases or frames of transformers used exclusively to supply current to switchboard instruments need not be grounded if they are installed and guarded as required for the maximum potential at which they operate.

d. Oil-filled transformers, when not located in central stations or sub-stations, shall be enclosed in fireproof vaults, constructed in accordance with section 5007 of this code.

5006. Switches.

a. Oil circuit breakers and switches shall be isolated from other switches and electrical apparatus wherever practicable. When operated at a potential exceeding 7500 volts, they shall be of the remote control type, and shall be placed in separate fireproof cells or compartments.

It is recommended that oil switches used to control transformers be located in the transformer vault.

5007. Transformer Vaults.

a. The enclosure shall consist of concrete not less than 6 inches in thickness, or of brick not less than 8 inches in thickness, except that when the total transformer capacity so enclosed is not over 100 kilo-volt amperes the above thickness may be reduced to 4 inches, provided approved fireproof material is employed and the construction of the vault is specifically approved by the inspection department.

It is recommended that outside walls of the building, if of fireproof construction, constitute one or more of the walls of the vault or enclosure.

b. The enclosure shall be provided with means for ventilation which will prevent the development of room temperatures in excess of those at which the transformers installed therein may be safely operated. Limiting temperatures shall be determined in accordance with and in the manner prescribed by the standardization rules of the American Institute of Electrical Engineers, and temperatures under full load shall not exceed the values given in such rules. All ventilating openings not connected to chimneys or flues shall be provided with automatic or manually controlled dampers to prevent the emission of smoke or fire.

It is recommended that damper controls be arranged to be operated from a point outside the vault.

c. Where practicable, a suitable drain shall be provided which will carry off any accumulation of oil or water that may collect in the vault. Floor and drain shall have a pitch of not less than $\frac{1}{4}$ inch per foot. In vaults containing transformers having a total capacity of 100 kilo-volt amperes or less the drain may be omitted if the enclosure is so constructed as to retain all the oil used within the vault.

d. Unless access is from outside the building only, the doorway to the vault shall be thoroughly closed by means of an approved tight-fitting fire door. A door sill not less than 4 inches in height shall be provided. In all cases the sill shall be of sufficient height to confine within the vault the oil from the largest transformer installed.

5008. Transformers in Furnace Rooms.

a. The requirements of sections 5006 and 5007 of this code shall be followed as far as practicable; provided, however, that by permission of the inspection department oil-filled transformers having a total rating of 75 kilo-volt amperes or less may be located in furnace rooms of fire-resisting construction, if surrounded by concrete curbs not less than 6 inches high and forming a basin of sufficient capacity to retain all the oil used in such transformers.

This is to guard against the possibility of molten metal from the furnace coming in contact with the transformer cases, and also to prevent oil from the transformers reaching the furnace.

ARTICLE 60. SIGNAL SYSTEMS.

6001. General.

a. The provisions of this article shall apply to telephone, telegraph (except radio), district messenger and call-bell circuits, fire and burglar alarm and similar systems.

Such systems are hazardous only because of their liability to become crossed with electric light, heat or power circuits.

6002. Outside Wires.

a. Outside wires shall be placed in underground ducts or strung on poles. They shall not be run across or attached to roofs except by permission of the inspection department.

b. Underground wires shall not be placed in a duct, handhole or manhole containing electric light or power wires. Where a handhole or a manhole is divided into sections by means of partitions of brick, concrete or tile, each compartment shall be considered as a separate handhole or manhole.

c. Overhead wires shall not be attached to a crossarm carrying electric light or power wires, nor shall they, when on the exterior walls of buildings, be brought closer than 4 inches to electric light or power wires unless one system is in conduit or is permanently separated from the other system by a continuous and firmly fixed non-conductor, additional to the insulation on the wires.

d. The metal sheath of aerial cables which are liable to contact with electric light or power wires shall be interrupted close to the entrance to a building by an insulating joint or equivalent device.

e. The distance between the two inside pins of any crossarm of a pole carrying signal and electric light and power wires shall be not less than 24 inches.

It is recommended that signal wires, being smaller and more liable to break and fall, be placed on the lower crossarms.

f. Aerial cables of the metal-sheathed type may have paper or other suitable insulation. If the metal sheath is omitted each wire shall have a $1/32$ inch rubber insulation and the bunched wires shall be covered with a substantial braid.

g. Wires from the last outdoor support to the protector, and wires attached to buildings shall conform to the requirements of paragraph f of this section, and in addition shall carry a substantial braid on each wire. Where not in conduit, such wires shall be separated from woodwork and supported on glass or porcelain insulators.

h. Wires shall enter buildings either through non-combustible, non-absorptive, insulating bushings, or through approved rigid conduit. Conduit or bushings shall slope upward from the outside, or, where this cannot be done, drip loops shall be formed in the wires immediately outside the point of entrance. The conduit shall be equipped with an approved service head. More than one wire may enter through one conduit or bushing.

6003. In Buildings; Generally.

a. Wires beyond the protector, or wires inside buildings where no protector is employed, shall be neatly arranged and secured in place in a convenient, workmanlike manner. They shall not approach nearer than 2 inches to any electric light or power wire unless one system is in conduit or the two systems are permanently separated by a continuous and firmly-fixed non-conductor, additional to the insulation on the wires.

The wires would ordinarily be insulated, but the kind of insulation is not specified, as reliance is placed on the protector to stop all dangerous currents. Porcelain tubes or approved flexible tubing are considered suitable non-conductors.

b. Wires bunched together in a vertical run shall have a fire-resisting covering sufficient to prevent the carrying of fire from floor to floor. This requirement shall not apply if the wires are encased in non-combustible tubing, or are located in a fireproof shaft having fire stops at each floor.

c. Signal wires and electric light and power wires may be run in the same shaft if the two systems are separated at least 2 inches, or if either system is encased in non-combustible tubing.

d. Signal wires shall not be placed in a tube containing electric light or power wires.

e. Transformers or other devices supplying current to signal systems from electric light or power circuits shall be of a type expressly approved for such service. The secondary wiring shall conform to the requirements of this article, and the primary wiring to the requirements of articles 1 to 19, inclusive, of this code.

6004. In Buildings; Where the Distribution System Consists of Aerial Wires.

a. An approved protector shall be placed as near as practicable to the point of entrance to the building. The protector shall be mounted on a non-combustible, non-absorptive insulating base and shall consist of an arrester between each line wire and ground and a fuse in each line wire, the fuses protecting the arrester. The protector terminals shall be plainly marked to indicate "line," "instrument" and "ground."

b. The protector shall not be placed in the immediate vicinity of easily ignitable material or inflammable gases, or dust or flyings of combustible material.

c. Where the entire street circuit is run underground a protector shall not be required unless the circuit within the block is so placed as to be liable to accidental contact with electric light or power wires operating at a potential exceeding 250 volts.

6005. Grounding.

a. The ground conductor of the protector shall consist of not less than No. 18 copper, having $1/32$ inch rubber insulation, covered with a substantial braid. Where necessary it shall be guarded from mechanical injury.

b. The ground conductor shall be run in as straight a line as possible to a permanent and effective ground. Where connection is made to a gas pipe, attachment shall be made between the meter and the street main. In every case the attachment shall be made as close to the earth as practicable.

A suitable ground may be obtained by connection to either a water pipe or a gas pipe, preferably to the former. A ground rod or pipe driven into permanently damp earth is acceptable, in the absence of a piping system.

c. The ground conductor shall be attached to the pipe by means of an approved bolted clamp to which the conductor is soldered or otherwise connected in an approved manner, or the pipe shall be tinned with rosin flux solder after which the conductor shall be wrapped around the pipe and thoroughly soldered to it.

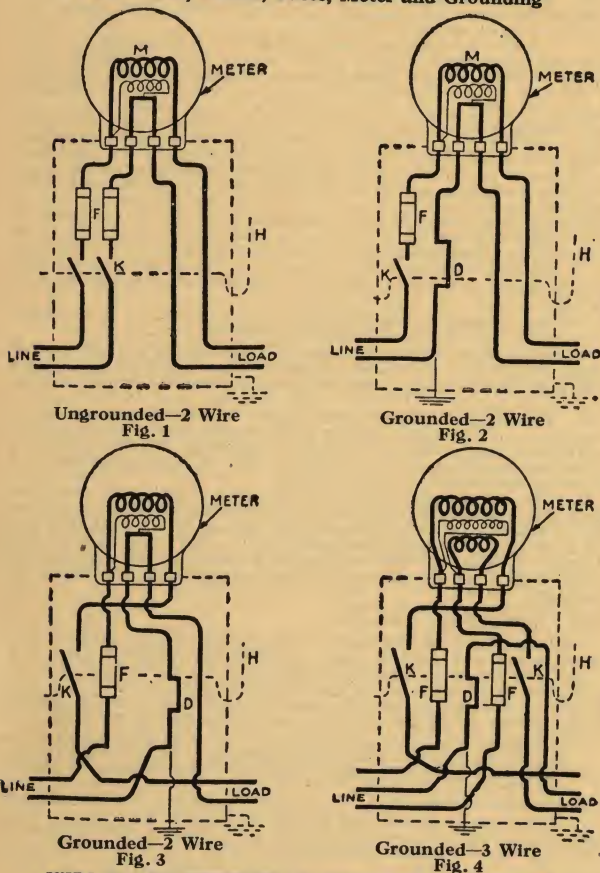
d. Steam or hot water pipes shall not be employed as a ground for protectors.



APPENDIX

On the following columns are given a few diagrams illustrating arrangements for service entrance devices, for motor installations and for radio equipments.

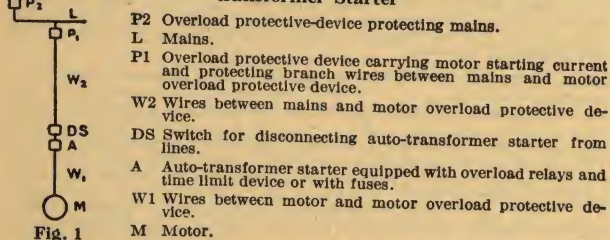
These are to be considered only as illustrations of some, but not necessarily all, arrangements permitted under the requirements of this code. They are given for convenience of reference and are not to be considered as mandatory. The text of the code should in all cases be used in final determination of the requirements.

Service Arrangements
For Cabinet, Switch, Fuses, Meter and Grounding

WIRING AND PROTECTIVE DEVICES FOR MOTORS

Single line diagrams indicating arrangement and capacities of wires and overload protective devices in the circuits of motors.

Squirrel Cage, Induction Type Motor Controlled by an Auto-transformer Starter



W1 Current carrying capacity must be at least 110% of the name plate current rating of the motor and not less than the rated capacity of the fuses or less than 77% of the setting of the overload tripping device at "A." (A circuit breaker or the equivalent must not be set more than 30% above the carrying capacity of the wires.) Consideration must be given to the kind of insulation on the wires in selecting size of wire under section 610.

A An auto-transformer starter equipped with overload relays and time limit device should not have a setting greater than 125% of the name plate current rating of the motor. If the auto-transformer is without overload relays and fuses are provided to protect the motor the capacity of the fuses should be not greater than 125% of the name plate current rating of the motor.

DS A switch must be provided on the supply side of each auto-transformer starter or group of auto-transformer starters and it must be within sight of the starter or starters controlled. The switch must have a continuous duty rating at least equal to the current carrying capacity of the wires "W1" between the motor and its running overload protective device "A."

W2 The current carrying capacity must not be less than the rated capacity of the fuses or less than 77% of the setting of the circuit breaker at "P1" (circuit breaker must not be set more than 30% above the carrying capacity of the wires). In no case should the carrying capacity be less than 110% of the name plate current rating of the motor. If overload protective device is not provided at "P1" the capacity of the wires must

not be less than 1/3 the capacity of the mains "L" and the length of the wires between mains "L" and the motor overload protective device at "A" must not be greater than 15 feet. The size of "W2" may be selected in accordance with Table C of section 610 if overload protective device is provided at "P1."

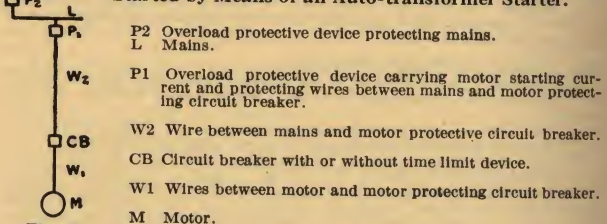
P1 If the length of the wires "W2" between mains "L" and motor overload protective device at "A" is greater than 15 feet or if the length is less than this but it is desired to have the capacity of wires "W2" less than 1/3 the capacity of the mains "L," and overload protective device must be placed at "P1." The protective device at "P1" must be large enough to carry the current during motor starting period without blowing.

In view of the fact that the starter relays or fuses at "A" are cut out of circuit during the motor starting period the capacity of the fuses or setting of the circuit breaker at "P1" (or at "P2" if none are installed at "P1" as permitted by the rules under certain conditions) should not be greater than 300% of the name plate current rating of the motor. In the great majority of cases where fuses are used, the fuses need not be greater than 250% of the name plate current rating of the motor where the rating is 30 amperes or less or greater than 200% of the name plate current rating of the motor where rating is greater than 30 amperes.

Note—A switch or overload protective device must not be placed in a grounded wire of a motor circuit.

Fuses are not required in addition to circuit breakers (a) on main switchboards, (b) where otherwise subject to competent supervision, (c) where next back on the line there are fuses rated or a circuit breaker set at not over 300% of the motor name plate rating, (d) for circuits having a maximum capacity greater than that for which approved fuses are rated.

Alternating Current Motor Protected by a Circuit Breaker Not Started by Means of an Auto-transformer Starter.



W1 Current carrying capacity must be at least 110% of the name plate current rating of the motor and must not be less than 77% of the current at which the circuit breaker "CB" is set to open. (Rules require that circuit breakers must not be set more than 30% above the capacity of the wires.) Consideration must be given to the kind of insulation on the wires in selecting size of wire under section 610.

CB Where the circuit breaker is equipped with time limit device it must have a setting of not over 125% of the name plate current rating of the motor. Where the circuit breaker is not equipped with time element device and is therefore intended to open instantaneously when mechanism starts to operate, the breaker must have a setting of not over 160% of the name plate current rating of the motor.

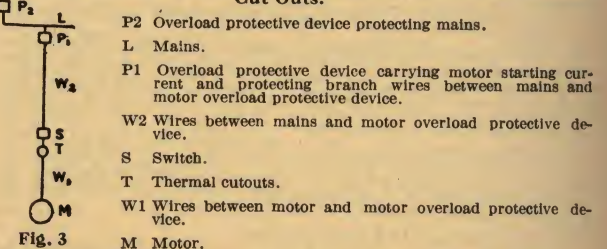
W2 The current capacity must not be less than the rated capacity of the fuses or less than 77% of the setting of the circuit breaker at "P1" (circuit breaker must not be set more than 30% above the carrying capacity of the wires). In no case should the carrying capacity be less than 110% of the name plate current rating of the motor. If the overload protective device is not provided at "P1" the capacity of the wires must not be less than 1/3 the capacity of the mains "L" and the length of the wires between the mains "L" and the motor overload protective device at "CB" must not be greater than 15 feet. Unless the motor is of a type that takes a large starting current, such as a squirrel cage motor, the size of wire should be selected under the Table of section 610 applying to the kind of insulation on the wire. If the motor is of a type taking large starting current and an overload protective device is provided at "P1" Table C of section 610 may be used.

P1 If the length of the wires "W2" between mains "L" and the motor overload protective device "CB" is greater than 15 feet or if the length is less than this and it is desired to have the capacity of wires "W2" less than 1/3 the capacity of the mains "L," an overload protective device must be placed at "P1." The protective device "P1" must be large enough to carry the current during motor starting period without blowing.

A switch or overload protective device must not be placed in a grounded wire of a motor circuit.

Fuses are not required in addition to circuit breakers, (a) on main switchboards, (b) where otherwise subject to competent supervision, (c) where next back on the line there are fuses rated or a circuit breaker set at not over 300% of the motor name plate rating, (d) for circuits having a maximum capacity greater than that for which approved fuses are rated.

Alternating Current Motor when Motor is Protected by Thermal Cut Outs.



W1 Current carrying capacity must be at least 110% of the name plate current rating of the motor and must not be less than the rated capacity of the thermal cutouts which are used to protect the motor. Consideration must be given to the kind of insulation or the wires in selecting size of wires under section 610.

T Thermal cutouts must have a rated capacity of not more than 125% of the name plate current rating of the motor except that when no thermal cutouts of the required capacity exist, those of the next higher standard rating may be used.

Direct Current Motor.

S Motor control switch must have a continuous duty rating at least equal to the current carrying capacity of "W1."

W2 The current carrying capacity must not be less than the rated capacity of the fuses or less than 77% of the setting of the circuit breaker at "P1" (circuit breaker must not be set more than 30% above the capacity of the wires). In no case should the carrying capacity be less than 110% of the name plate current rating of the motor. If overload protective device is provided at "P1" and the motor is of a type taking large starting current such as a squirrel cage type motor the size of "W2" may be selected in accordance with Table C of section 610.

P1 When an overload protective device is installed at this point it should be a set of fuses in view of the fact that the motor is protected by thermal cutouts. These fuses must be of such capacity that they will not be opened when motor is being started and in no case should their rated capacity be greater than indicated on the labels of the thermal cutouts at "T."

P2 If fuses are provided at "P1" the overload protective device at "P2" may be either a set of fuses or a circuit breaker, otherwise fuses only must be installed. If fuses are not provided at "P1" and the branch wires of a single motor or group of motors depends for protection on fuses at "P2" the rated capacity of these fuses must not be greater than indicated on the labels of the thermal cutouts at "T." The number and size of motors grouped with thermal cutout protection need be limited only by the maximum size of the fuses with which the thermal cutouts can be safely used and each thermal cutout must be marked to indicate the size of this fuse.

Note—A switch or overload protective device must not be placed in a grounded wire of a motor circuit.

Squirrel Cage Induction Type of Motor When Motor is Started Under Full Voltage.

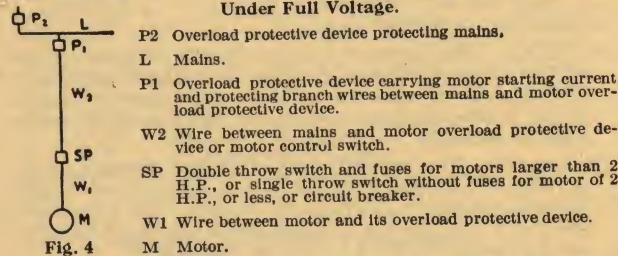


Fig. 4

W1 Current carrying capacity must be at least 110% of the name plate current rating of the motor and not less than the capacity of the fuses or less than 77% of the setting of the circuit breaker at "SP" (a circuit breaker must not be set more than 30% above the carrying capacity of the wires). If fuses or circuit breaker at "SP" are cut out of circuit or inoperative during the motor starting period, wire "W1" having a carrying capacity at least equal to 110% of the name plate current rating of the motor is considered as being satisfactorily protected when the overload protective device at "P1" or "P2" does not have a capacity greater than 300% of the name plate current rating of the motor. If motor is 2 H.P. or smaller and an overload protective device is not installed at "SP," "W1" should not be smaller in capacity than required for "W2." Consideration must be given to the kind of insulation on the wires in selecting sizes of wire under section 610.

SP If motor is larger than 2 H.P. and is controlled and protected by switch and fuses at "SP" the switch must have a continuous duty rating at least equal to the current carrying capacity of "W1" and it must be of the double throw type so that fuses will be cut out of circuit during motor starting period. Switch must be so arranged that it can not be left in the starting position. The capacity of the fuses must not be greater than 125% of the name plate current rating of the motor.

If the motor is 2 H.P. or smaller in size the switch at "SP" may be of the single throw type and fuses need not be provided at this point. In this case motor will depend for protection on the overload protective device of P1. The switch must have a continuous duty rating at least equal to the current carrying capacity of W1.

If the motor is controlled and protected by circuit breaker at "SP" it must have a setting of not over 125% of the name plate current rating of the motor.

W2 Current carrying capacity must not be less than the rated capacity of the fuses or less than 77% of the setting of the circuit breaker at "P1" (a circuit breaker must not be set more than 30% above the carrying capacity of the wires). In no case should the carrying capacity be less than 110% of the name plate current rating of the motor. If overload protective device is not provided at "P1" the capacity of the wires must not be less than 1/3 the capacity of the mains "L" and the length of the wires between mains "L" and the motor overload protective or control device at "SP" must not be greater than 15 feet. As the wire carries the current of only a single motor it may be selected in accordance with Table C of section 610 when overload protective device is provided at "P1."

P2 If the length of the wires "W2" between mains "L" and the motor overload protective or control device "SP" is greater than 15 feet, or if the length is less than this and it is desired to have the capacity of wires "W2" less than 1/3 the capacity of the mains "L" an overload protective device must be placed at "P1." (Where motors are small enough to permit their being started under full voltage the protective device at "P1" will usually be a set of fuses.) If fuses are installed at "P1" they must be large enough to carry the current during the motor starting period without blowing. In the great majority of cases fuses rated at 300% of the name plate current rating of the motor will not blow under the condition. If a circuit breaker is installed at P1 it should not be set over 30% above the carrying capacity of "W2."

P3 If an overload protective device is not installed at "P1" as permitted by the rules under certain conditions and the motor protective device is either cut out of circuit or inoperative during motor starting period, the rating of the fuses or setting of circuit breaker at "P2" must not be more than 300% of the name plate current rating of the motor.

Note—A switch or overload protective device must not be placed in a grounded wire of a motor circuit.

Fuses are not required in addition to circuit breakers, (a) on main switchboards, (b) where otherwise subject to competent supervision, (c) where next back on the line there are fuses rated or a circuit breaker set at not over 300% of the motor name plate rating, (d) for circuits having a maximum capacity greater than that for which approved fuses are rated.

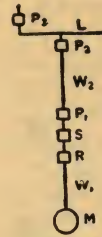


Fig. 5

P3 Overload protective device protecting mains.

L Mains.

P2 Overload protective device protective wires between mains and motor overload protective device.

W2 Wires between mains and motor overload protective device.

P1 Motor overload protective device (may be either fuses or circuit breaker).

S Motor control switch.

R Rheostat.

W1 Wires between motor and motor overload protective device.

M Motor.

W1 Current carrying capacity must be at least 110% of the name plate current rating of the motor and not less than the rated capacity of the fuses or less than 77% of the setting of the circuit breaker at "P1" or overload release on "R" (circuit breakers or overload release on rheostat must not be set more than 30% above the carrying capacity of the wires). Consideration must be given to the kind of insulation on the wires in selecting sizes under section 610.

R Rheostat may serve as overload protective device in place of "P1" if overload release is operative during process of starting motor. The capacity of the rheostat and the setting of the overload release device if rheostat is used as a circuit breaker should comply with the requirements for circuit breaker at "P1."

S Switch must be provided unless circuit breaker "P1" disconnects all ungrounded wires to the motor. The switch must have a continuous duty rating at least equal to the capacity of wires "W1."

P1 If a circuit breaker is provided at "P1" it should have a rated capacity of at least 110% of the name plate current rating of the motor. If it is equipped with time limit device it should have a setting of not over 125% and if arranged to trip instantaneously a setting of not over 160% of the name plate current rating of the motor. If fuses are provided at "P1" they should have a rated capacity not greater than 125% of the name plate current rating of the motor. If the overload release device on the rheostat is operative during the process of starting the motor an overload protective device need not be provided at "P1."

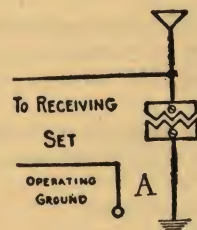
W2 The current carrying capacity must not be less than the rated capacity of the fuses or less than 77% of the setting of the circuit breaker at "P2" (circuit breaker must not be set more than 30% above the carrying capacity of the wires). In no case should the carrying capacity be less than 110% of the name plate current rating of the motor. If overload release device is not provided at "P2" the capacity of the wires must not be less than 1/3 the capacity of the mains "L" and the length of the wires between mains "L" and the motor overload protective device at "P1" (or "R" if rheostat is operative during process of starting motor and "P1" is not provided) must not be greater than 15 feet. Consideration must be given to the kind of insulation on the wires in selecting size of wire under section 610.

P2 If the length of the wires "W2" between mains "L" and motor overload protective device at "P1" (or "R" under certain conditions already mentioned) is greater than 15 feet or if the length is less than this and it is desired to have the capacity of "W2" less than 1/3 the capacity of the mains "L" an overload protective device must be placed at "P2."

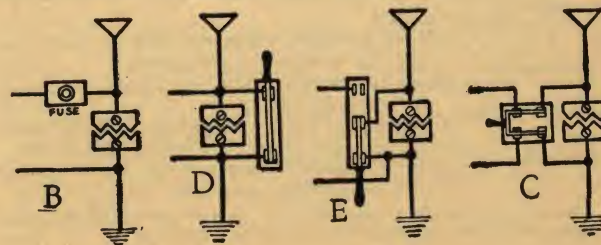
Note—A switch or overload protective device must not be placed in a grounded wire of a motor circuit.

Fuses are not required in addition to circuit breakers (a) on main switchboards, (b) where otherwise subject to competent supervision, (c) where next back on the line there are fuses rated or a circuit breaker set at not over 300% of the motor name plate rating, (d) for circuits having a maximum capacity greater than that for which approved fuses are rated.

Required Protection for Radio Receiving Sets Article 37















































Illustrative Permissible Additions to Protection for Radio Receiving Sets





Standard Symbols for Wiring Plans

As Adopted and Recommended by the National Electrical Contractors Association

-  Ceiling outlet; electric only. Numeral in center indicates number of stand. 60 W. incand. lamps.
-  Ceiling outlet; combination. 4-2 indicates 4-60 W. stand. incand. lamps and 2 gas burners.
-  If gas only.
-  Bracket outlet; electric only. Numeral in center indicates number of stand. 60 W. incand. lamps.
-  Bracket outlet; combination. 4-2 indicates 4-60 W. stand. incand. lamps and 2 gas burners. If gas only.
-  Wall or baseboard receptacle outlet. Numeral in center indicates number of stand. 60 W. incand. lamps.
-  Floor outlet. Numeral in center indicates number of stand. 60 W. incand. lamps.
-  Outlet for outdoor standard or pedestal; electric only. Numeral indicates number of stand. 60 W. lamps.
-  Outlet for outdoor standard or pedestal; combination. 6-6 indicates 6-60 W. stand. incand. lamps; 6 gas burners.
-  Drop cord outlet.
-  One light outlet, for lamp receptacle.
-  Arc lamp outlet.
-  Special outlet, for lighting, heating and power current, as described in specifications.
-  Ceiling fan outlet.
-  S. P. switch outlet.
-  D. P. switch outlet.
-  3-way switch outlet.
-  4-way switch outlet.
-  Automatic door switch outlet.
-  Electrolier switch outlet.
-  Meter outlet.
-  Distribution panel.
-  Junction or pull box.
-  Motor outlet; numeral in center indicates horsepower.
-  Motor control outlet.
-  Transformer.
-  Main or feeder run concealed under floor.
-  Main or feeder run concealed under floor above.
-  Main or feeder run exposed.
-  Branch circuit run concealed under floor.
-  Branch circuit run concealed under floor above.
-  Branch circuit run exposed.
-  Pole line.
-  Riser.
-  Telephone outlet; private service.
-  Telephone outlet; public service.
-  Bell outlet.
-  Buzzer outlet.
-  Push button outlet; numeral indicates number of pushes.
-  Annunciator; numeral indicates number of points.
-  Speaking tube.
-  Watchman clock outlet.
-  Watchman station outlet.
-  Master time clock outlet.
- Secondary time clock outlet.
- Door opener.
- Special outlet; for signal systems, as described in specifications.
- Battery outlet.

Show as many symbols as there are switches.

Describe type of switch in specifications, that is, flush or surface, push button or snap.

Circuit for clock, telephone, bell or other service, run under floor, concealed.
Kind of service wanted ascertained by symbol to which line connects.
Circuits for clock, telephone, bell or other service, run under floor above, concealed.
Kind of service wanted ascertained by symbol to which line connects.

NOTE.—If other than standard 60 W. lamps are desired, specifications should describe capacity of lamp to be used.

Tables

Units of Measure

The electrical units are derived from the following mechanical units of the metric system:

METER.—A unit of length equal, approximately, to one ten-millionth part of a quadrant of a meridian of the earth taken through Paris; or, approximately, to 39.37 inches.

GRAMME.—Unit of weight. Weight of a cubic centimeter of water at a temperature of 4 degrees centigrade.

SECOND.—Unit of time. The time of one swing of a pendulum making 86,400 swings in a solar day.

Electrical Units

VOLT.—Such an electromotive force as would cause a current of one ampere to flow against a resistance of one ohm. Such an electromotive force as would charge a condenser of the capacity of one farad with a quantity of electricity equal to one coulomb.

OHM.—The practical unit of electric resistance. Such a resistance as would limit the flow of electricity under an electromotive force of one volt, to a current of one ampere, or one-coulomb-per-second.

MEGOHM.—1,000,000 ohms.

AMPERE.—The practical unit of electric current. A rate of flow of electricity transmitting one coulomb per second. The current of electricity which would pass through a circuit whose resistance is one ohm, under an electromotive force of one volt.

COULOMB.—The practical unit of electric quantity. Such a quantity of electricity as would pass in one second through a circuit conveying one ampere. The quantity of electricity contained in a condenser of one farad capacity, when subjected to the E. M. F. of one volt.

FARAD.—The practical unit of electric capacity. Such a capacity of a conductor or condenser that one coulomb of electricity is required to produce therein a difference of potential of one volt.

MICROFARAD (MFD).—One-millionth of a farad.

WATT.—A unit of electric power. A volt-ampere. The power developed when 44.25 foot-pounds of work are done in a minute, or 0.7375 foot-pound of work is done in a second.

JOULE.—A volt-coulomb or unit of electric energy or work. The amount of electric work required to raise the potential of one coulomb of electricity one volt. Ten million ergs.

Ohm's Law

Ohm's law is a method of expressing relationship existing between the electromotive force, current and resistance, and is practically the basis of most electrical computations. It is expressed in various forms, as follows:

$$\text{Current Flow} = \frac{\text{Electromotive Force}}{\text{Resistance}} \text{ or, } I = \frac{E}{R}$$

Electromotive force equals the current flow multiplied by resistance.

Electromotive Force = Current Flow x Resistance, or $E = I \times R$.

Resistance equals the electromotive force divided by the current flow.

$$\text{Resistance} = \frac{\text{Electromotive Force}}{\text{Current Flow}} \text{ or, } R = \frac{E}{I}$$

I = Amperes. E = Volts. R = Ohms.

Electromotive force varies directly as the current and resistance.

Resistance varies directly with the electromotive force and inversely as the current.

Current varies directly with the electromotive force and inversely as the resistance.

Mil

The "mil," whose expressed value is $\frac{\text{One}}{\text{One-Thousandth}}$ (.001) of an inch, is the practical basis for determining the diameters and thereby the area of all wires used as electric conductors. The diameters being given, the area is obtained by the well-known rule, "the area of a circle, in circular units, is equal to the square of its diameter"; hence the square of the diameter of a wire expressed in mils equals the area of its cross section. $D^2 = A$, which area is expressed in Circular Mils or CM. hence $D^2 = CM$.



Tables

Metric System of Weights and Measures

Measures of Lengths			
1 Millimeter =	0.001 Meter	=	0.0394 Inch
1 Centimeter =	0.01 Meter	=	0.3937 Inch
1 Decimeter =	0.1 Meter	=	3.937 Inch
1 Meter =	1 Meter	=	39.37 Inch
1 Dekameter =	10 Meters	=	393.7 Inch
1 Hectometer =	100 Meters	=	328 Feet 1 Inch
1 Kilometer =	1000 Meters	=	3280 Feet 10 In.
1 Myriameter =	10000 Meters	=	6.2137 Miles

It will be noticed that 10 Millimeters equal 1 Centimeter,
10 Centimeters equal 1 Decimeter and so on.

Measures of Volumes			
1 Milliliter =	0.001 Liter	=	0.061 Cu. In.
1 Centiliter =	0.01 Liter	=	0.6102 Cu. In.
1 Deciliter =	0.1 Liter	=	6.1022 Cu. In.
1 Liter =	1 Liter	=	0.9081 Quart
1 Dekaliter =	10 Liters	=	9.081 Quarts
1 Hectoliter =	100 Liters	=	2 Bu. 3.35 Pks.
1 Kiloliter =	1000 Liters	=	1.308 Cu. Yds.

Weights			
1 Milligrme. =	0.001 Gramme	=	0.0154 Grain
1 Centigrme. =	0.01 Gramme	=	0.1543 Grain
1 Decigrme. =	0.1 Gramme	=	1.5432 Grains
1 Gramme =	1 Gramme	=	15.432 Grains
1 Dekagrme. =	10 Grammes	=	0.3527 Ounce
1 Hectogrme. =	100 Grammes	=	3.5274 Ounces
1 Kilogramme =	1000 Grammes	=	2.2046 Pounds
1 Myriagrme. =	10000 Grammes	=	22.046 Pounds

Measures of Surface			
1 Hectare =	10000 Sq. Meters	=	2.471 Acres
1 Are =	100 Sq. Meters	=	119.6 Sq. Yds.
1 Centiare =	1 Sq. Meter	=	1.550 Sq. Ins.

Metric and English Equivalents

Inches	=	Millimeters	÷	25
Feet	=	Meters	×	3.2803
Yards	=	"	×	1.09361
Miles	=	Kilometers	÷	1.60935
Square Inches	=	Sq. Millimeters	×	.00155
Square Feet	=	Square Meters	×	10.7641
Acres	=	Sq. Kilometers	×	247.114
Cubic Inches	=	Cu. Centimeters	÷	16.3870
Cubic Feet	=	Cubic Meters	×	35.3140
Lbs. Avoirdupois	=	Kilogrammes	×	2.40262
Tons (2000 lbs.)	=	Kilogrammes	÷	907.18
Lbs. per foot	=	Kilo per meter	×	.67196
Lbs. per cwt. ft.	=	Kilo per cu. meter	×	.06243
Square Millimeters	=	Square inches	×	645.137
Square Meter	=	Square Feet	×	.0929
Grammes	=	Ounces	×	28.3495
Grammes	=	Pounds	×	453.5926
Kilogrammes	=	Pounds	×	.45359

Field Current in D. C. Dynamos

It has been found that a fair average for the field amperes of different sized dynamos, is as follows:—

K. W.	1	5	10	20	30	50	75	100
Per Cent	8	6	5	4	3.5	3	3	2.75

The field current (expressed as a percentage of full load current on lines) is determined with all of the resistance out, that is, with rheostat on first notch.

Copper Wire Resistance

The basis for computation of resistance of copper wires is a wire one foot long and one circular mil of cross section known as a mil-foot, and which has a resistance of 24° C., or 75° F., of about 10.7 Ohms. The resistance of a copper wire varies directly as its length and inversely as its cross section: hence,

The resistance (R) of a copper wire is equal to its length (D) multiplied by the resistance of a mil-foot and divided by the cross section in circular mils (CM).

$$\text{Or, } R = \frac{D \times 10.7}{\text{CM}} \text{ also}$$

The cross section (CM) in circular mils of a wire is equal to its length (D) multiplied by the resistance of a mil-foot, divided by its resistance (R).

$$\text{CM} = \frac{D \times 10.7}{R} \text{ also}$$

The length (D) of a wire is equal to the cross section in circular mils (CM) multiplied by its resistance (R) and divided by the resistance of a mil-foot.

$$D = \frac{\text{CM} \times R}{10.7}$$

Physical Data

The equivalent of one B.t.u. of heat = 778 foot-pounds.
The equivalent of one calorie of heat = 426 kg-m., = 3.968 B.t.u.
One cubic foot of water weighs 62.355 pounds at 62° Fahr.
One cubic foot of air weighs 0.0807 pounds at 32° Fahr. and one atmosphere.
One cubic foot of hydrogen weighs 0.00557 pounds.
One foot-pound = 1.3562×10^7 ergs.
One horsepower hour = 33,000 × 60 foot-pounds.
One horsepower = 33,000 foot-pounds per min. = 550 foot-pounds per second = 746 watts, = 2545 B.t.u. per hour.
Acceleration of gravity (g) = 32.2 feet per second. = 980 mm. per second.
One atmosphere = 14.7 pounds per square inch. = 2116 pounds per square foot. = 760 mm. of mercury.
Velocity of sound at 0° Cent. in dry air = 332.4 meters per s. c. = 1091 feet per sec.
Velocity of light in vacuum = 299,853 km. per sec. = 186,325 miles per sec.
Specific heat of air at constant pressure = 0.237.
A column of water 2.3 feet high corresponds to a pressure of 1 pound per square inch.
Coefficient of expansion of gases = $\frac{1}{273}$ = 0.00367.
Latent heat of water = 79.24.
Latent heat of steam = 535.9.

Handy Table

Diameter of a circle × 3.1416 = circumference.
Radius of a circle × 6.283185 = circumference.
Square of the diameter of a circle × 0.7854 = area.
Square of the circumference of a circle × 0.07958 = area.
Half the circumference of a circle × half its diameter = area.
Circumference of a circle × 0.159155 = radius.
Square root of a circle + 0.56419 = radius.
Circumference of a circle × 0.31831 = diameter.
Square root of the area of a circle × 1.12838 = diameter.
Diameter of a circle = 0.86 = side of inscribed equilateral triangle.
Diameter of a circle × 0.7071 = side of an inscribed square.
Circumference of a circle + 0.225 = side of an inscribed square.
Circumference of a circle + 0.282 = side of an equal square.
Diameter of a circle × 0.8862 = side of an equal square.
Base of a triangle × $\frac{1}{2}$ the altitude = area.
Multiplying both diameters and .7854 together = area of an ellipse.
Surface of a sphere × $\frac{1}{6}$ of its diameter = solidity.
Circumference of a sphere × its diameter = surface.
Square of the diameter of a sphere × 3.1416 = surface.
Square of the circumference of a sphere × 0.3183 = surface.
Cube of the diameter of a sphere × 0.5236 = solidity.
Cube of the radius of a sphere × 4.1888 = solidity.
Cube of the circumference of a sphere × 0.016887 = solidity.
Square root of the surface of a sphere × 0.56419 = diameter.
Square root of the surface of a sphere + 1.772454 = circumference.
Cube root of the solidity of a sphere × 1.2407 = diameter.
Cube root of the solidity of a sphere × 3.8978 = circumference.
Radius of a sphere × 1.1547 = side of an inscribed cube.
Square root of ($\frac{1}{6}$ of the square of) the diameter of a sphere = side of inscribed cube.
Area of its base × $\frac{1}{3}$ of its altitude = solidity of a cone or pyramid, whether round, square, or triangular.
Area of one of its sides × 6 = surface of a cube.
Altitude of trapezoid × $\frac{1}{2}$ the sum of its parallel sides = area.



Equivalent Values in Different Units

1 H.P. =	746 watts .746 K.W. 33,000 ft.-lbs. per minute 550 ft.-lbs. per second 2,545 heat-units per hour 42.4 heat units per minute .707 heat-units per second .175 lbs. carbon oxidized per hour 2.64 lbs. water evaporated per hour from and at 212° F.
1 H.P. Hour =	746 K.W. hours 1,980,000 ft.-lbs. 2,545 heat-units 273,740 k.g.m. .175 lbs. carbon oxidized with perfect efficiency 2.64 lbs. water evaporated from and at 212° F. 17.0 lbs. water raised from 62° to 212° F
1 Kilo-watt =	1,000 watts 1.34 H.P. 2,654,200 ft.-lbs. per hour 44,240 ft.-lbs. per minute 737.3 ft.-lbs. per second 3,412 heat-units per hour 56.9 heat-units per minute .948 heat-units per second .2275 lb. carbon oxidized per hour 3.53 lbs. water evaporated per hour from and at 212° F.
1 Watt per Sq. In. =	8.9 heat-units per sq. ft. per minute 6,371 ft.-lbs. per sq. ft. per minute 193 H.P. per sq. ft. 7.233 ft.-lbs.
1 Kilo-gram Meter =	.00000365 H.P. hour .00000272 K.W. hour .0093 heat-units
1 Lb. Water Evaporated from and at 212° F. =	.283 K.W. hour .379 H.P. hour 965.7 heat-units 103,900 k.g.m. 1,019,000 joules 751,300 ft.-lbs. .0664 lb. of carbon oxidized
1 Heat-Unit =	1,055 watt seconds 778 ft.-lbs. 107.6 kilogram meters .000293 K.W. hour .000393 H.P. hour .0000688 lbs. carbon oxidized .001036 lbs. water evaporated from and at 212° F.
1 Heat-Unit per Sq. Ft. per Min. =	.122 watts per sq. in. .0176 K.W. per sq. ft. .0236 H.P. per sq. ft.

Wiring Formula

Ohm's law is practically the basis for the various formulae in general use for determining the proper size of wire to use to carry various currents. It is essential to know the amount of current expressed in amperes, the distance, and to decide upon the loss to allow in transmission; the best rule is as follows:

The cross section (CM) of the necessary wire is found by multiplying twice the distance one way (2D) by the amount of current expressed in amperes (C) and this by the resistance of one mil-foot (10.7) and dividing by the loss in transmission expressed in volts (v).

$$\text{or, CM} = \frac{2D \times C \times 10.7}{v} \quad \text{or, CM} = \frac{D \times C \times 21.4}{v}$$

Equivalent Values in Different Units

Continued

1 Watt =	1 joule per second .00134 H.P. 3,412 heat-units per hour .7373 ft.-lbs. per second .0035 lb. water evaporated per hour 44.24 ft.-lbs. per minute
1 K.W. Hour =	1,000 watt hours 1.34 H.P. hours 2,654,200 ft.-lbs. 3,600,000 joules 3,412 heat-units 367,000 kilogram meters .235 lb. carbon oxidized with perfect efficiency 3.53 lbs. water evaporated from and at 212° F. 22.75 lbs. of water raised from 62° to 212° F.
1 Joule =	1 watt second .000000278 K.W. hour .102 k.g.m. .0009477 heat-units .7373 ft.-lb.
1 Ft.-Lb. =	1.356 joules .1383 k.g.m. .000000377 K.W. hours .001285 heat-units .0000005 H.P. hour
1 lb. Carbon Oxidized with Perfect Efficiency =	14,544 heat-units 1.11 lb. anthracite coal oxidized 2.5 lbs. dry wood oxidized 21 cu. ft. illuminating gas 4.26 K.W. hours 5.71 H.P. hours 11,315,000 ft.-lbs. 15 lbs. of water evaporated from and at 212° F.

Equivalent of Electrical Units

1 H.P. =	33,000 foot-pounds per minute 746 watts 42.746 B.T.U. (British Thermal Unit) per minute 2564.76 B.T.U. per hour
1 K.W. =	44,235 foot-pounds per minute 1.34 H.P. 0.955 B.T.U. per second 57.3 B.T.U. per minute 3,438 B.T.U. per hour
1 B.T.U. =	772 foot-pounds 17,452 watt minutes 0.2909 watt hours
1 Watt =	44.236 foot-pounds per minute 2,654.16 foot pounds per hour

Latent heat of evaporation of water = 966 B.T.U.

Latent heat of melting of water = 142 B.T.U.

To evaporate 1 lb. water from and at 212° = 16.859 K.W. minutes

To evaporate 1 lb. water from and at 212° = 0.281 K. W hours

Weight per cu. ft. of water = 62.42 lbs.

Weight per gallon of water = 8.33 lbs.



Table of Comparison of Centigrade and Fahrenheit Scales

Thermometer Scales							
Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.	Cent.	Fahr.
0	32.0	13	55.4	26	78.8	39	102.2
1	33.8	14	57.2	27	80.6	40	104.0
2	35.6	15	59.0	28	82.4	41	105.8
3	37.4	16	60.8	29	84.2	42	107.6
4	39.2	17	62.6	30	86.0	43	109.4
5	41.0	18	64.4	31	87.8	44	111.2
6	42.8	19	66.2	32	89.6	45	113.0
7	44.6	20	68.0	33	91.4	46	114.8
8	46.4	21	69.8	34	93.2	47	116.6
9	48.2	22	71.6	35	95.0	48	118.4
10	50.0	23	73.4	36	96.8	49	120.2
11	51.8	24	75.2	37	98.6	50	122.0
12	53.6	25	77.0	38	100.4	51	123.8
52	125.6	65	149.0	78	172.4	91	195.8
53	127.4	66	150.8	79	174.2	92	197.6
54	129.2	67	152.6	80	176.0	93	199.4
55	131.0	68	154.4	81	177.8	94	201.2
56	132.8	69	156.2	82	179.6	95	203.0
57	134.6	70	158.0	83	181.4	96	204.8
58	136.4	71	159.8	84	183.2	97	206.6
59	138.2	72	161.6	85	185.0	98	208.4
60	140.0	73	163.4	86	186.8	99	210.2
61	141.8	74	165.2	87	188.6	100	212.0
62	143.6	75	167.0	88	190.4	...	...
63	145.4	76	168.8	89	192.2	...	...
64	147.2	77	170.6	90	194.0	...	...

Seventy-five deg. Fahr., or 23.8 deg. Cent. is the standard temperature for measuring electrical resistances in submarine cable tests.

Sixty deg. Fahr., or 15.5 deg. Cent. is the standard temperature for measuring the electrical resistance of wire for general telegraphic and electric light purposes; it is assumed to be the average temperature of the air.

Nine deg. Fahr.=5 deg. Centigrade=4 deg. Reaumur.

One deg. Fahr.=.5556 deg. Centigrade.

One deg. Centigrade=1.8 deg. Fahr.

To convert Fahr. to Centigrade, subtract 32, multiply by 5 and divide by 9.

To convert Fahr. to Reaumur, subtract 32, multiply by 4 and divide by 9.

To convert Centigrade to Fahr., multiply by 9, divide by 5 and add 32.

To convert Centigrade to Reaumur multiply by 4 and divide by 5.

To convert Reaumur to Fahr., multiply by 9, divide by 4 and add 32.

To convert Reaumur to Centigrade, multiply by 5, divide by 4.

If temperature is below freezing, the above formula should read "subtract from 32" in place of "subtract 32" and "add 32."

Bus Bar Copper Data

Thick-ness		Width		Wt., per Lin. Ft.		CARRYING CAPACITY @ 1000 Amps.		Thick-ness		Width		Wt., per Lin. Ft.		CARRYING CAPACITY @ 1000 Amps.	
In.	Fr.	In.	Fr.	Pounds	Amperes	In.	Amperes	In.	Fr.	In.	Fr.	Pounds	Amperes	In.	Amperes
1/16	1/2			.121	31	25		1/4	1			.964	250	200	
1/16	3/4			.181	47	38		1/4	1 1/4			1.21	313	250	
1/16	1			.241	63	50		1/4	1 1/2			1.45	375	300	
1/8	1/2			.241	63	50		1/4	1 3/4			1.69	438	350	
1/8	3/4			.362	94	75		1/4	2			1.93	500	400	
1/8	1			.482	125	100		1/4	2 1/2			2.41	625	500	
1/8	1 1/4			.603	156	125		1/4	3			2.89	750	600	
1/8	1 1/2			.723	188	150		3/8	1			1.45	375	300	
1/8	1 3/4			.844	219	175		3/8	1 1/4			1.81	469	375	
1/8	2			.964	250	200		3/8	1 1/2			2.17	563	450	
1/8	2 1/2			1.21	313	250		3/8	1 3/4			2.53	657	525	
1/8	3			1.45	375	300		3/8	2			2.89	750	600	
1/4	1/2			.482	125	100		3/8	2 1/2			3.62	938	750	
1/4	3/4			.723	188	150		3/8	3			4.34	1125	900	

Table for Figuring Net Profits

If your cost of doing business figured on sales is represented by one of these figures:

%	10%	11%	12%	13%	14%
3	79/10 loss	89/10 loss	99/10 loss	109/10 loss	119/10 loss
5	51/5 loss	61/5 loss	71/5 loss	81/5 loss	91/5 loss
10	009/10 loss	19/10 loss	29/10 loss	39/10 loss	49/10 loss
15	35/11	25/11	15/11	005/11	006/11 loss
20	62/3	52/3	42/3	32/3	22/3
25	10	9	8	7	6
30	131/13	121/13	111/13	101/13	91/13
33 1/3	15	14	13	12	11
35	1525/27	1425/27	1325/27	1225/27	1125/27
40	184/7	174/7	164/7	154/7	144/7
50	231/3	221/3	211/3	201/3	191/3
60	271/2	261/2	251/2	241/2	231/2
75	326/7	316/7	306/7	296/7	286/7
100	40	39	38	37	36

If your cost of doing business figured on sales is represented by one of these figures:

%	15%	16%	17%	18%	19%	20%
3	129/10 loss	139/10 loss	149/10 loss	159/10 loss	169/10 loss	179/10 loss
5	101/5 loss	111/5 loss	121/5 loss	131/5 loss	141/5 loss	151/5 loss
10	59/10 loss	69/10 loss	79/10 loss	89/10 loss	99/10 loss	109/10 loss
15	16/11 loss	26/11 loss	36/11 loss	46/11 loss	56/11 loss	66/11 loss
20	12/3	002/3	001/3 loss	1/3 loss	2/3 loss	3/3 loss
25	5	4	3	2	1	00
30	81/13	71/13	61/13	51/13	41/13	31/13
33 1/3	10	9	8	7	6	5
35	1025/27	925/27	825/27	725/27	625/27	525/27
40	134/7	124/7	114/7	104/7	94/7	84/7
50	181/3	171/3	161/3	151/3	141/3	131/3
60	221/2	211/2	201/2	191/2	181/2	171/2
75	276/7	266/7	256/7	246/7	236/7	226/7
100	35	34	33	32	31	30

If your cost of doing business figured on sales is represented by one of these figures:

%	21%	22%	23%	24%	25%
3	189/10 loss	199/10 loss	209/10 loss	219/10 loss	229/10 loss
5	161/5 loss	171/5 loss	181/5 loss	191/5 loss	201/5 loss
10	119/10 loss	129/10 loss	139/10 loss	149/10 loss	159/10 loss
15	76/11 loss	86/11 loss	96/11 loss	106/11 loss	116/11 loss
20	41/3 loss	51/3 loss	61/3 loss	71/3 loss	81/3 loss
25	1 loss	2 loss	3 loss	4 loss	5 loss
30	21/13	11/13	001/13	0012/13 loss	112/13 loss
33 1/3	4	3	2	1	00
35	425/27	325/27	225/27	125/27	0025/27
40	74/7	64/7	54/7	44/7	34/7
50	121/3	111/3	101/3	91/3	81/3
60	161/2	151/2	141/2	131/2	121/2
75	216/7	206/7	196/7	186/7	176/7
100	29	28	27	26	25

Your percentage of net profit is represented by the figure at the junction of the two columns:

Explanation—If your cost of doing business is 15% of your gross sales and you mark goods at 25% above cost, your net profit is 5% on sales—as shown in diagram. If your cost of doing business is 18% and you mark your goods at 60% above cost, your net profit is 19 1/2% on sales.

Cost per Mile Triple Braid Weatherproof at 10c to 20c per Lb. Allowing 2 1/2% for Sag and Waste Solid Conductor

Size B. & S. Gauge		AMOUNT IN DOLLARS PER MILE AT THE DIFFERENT PRICES PER POUND				
		15c	16c	17c	18c	19c
0000	4050	\$623.00	\$664.00	\$706.00	\$747.00	\$789.00
000	3320	510.00	544.00	579.00	613.00	647.00
00	2650	407.00	435.00	462.00	489.00	516.00
0	2150	331.00	353.00	375.00	397.00	419.00
1	1670	257.00	274.00	291.00	308.00	325.00
2	1370	211.00	225.00	239.00	253.00	267.00
3	1050	161.00	172.00	183.00	194.00	204.00
4	865	133.00	142.00	151.00	160.00	169.00
6	590	91.00	97.00	103.00	109.00	115.00
8	395	61.00	65.00	69.00	73.00	77.00
10	280	43.05	45.92	48.79	52.00	55.00
12	185	28.50	30.40	32.30	34.20	36.10
14	130	19.95	21.28	22.61	23.94	25.27
16	105	16.20	17.28	18.36	19.44	20.52
18	85	13.05	13.92	14.79	15.66	16.53
20	65	10.05	10.72	11.39	12.06	12.73



American or B. & S. Gauge

The resistance given in the table is that of pure copper wire; ordinary commercial copper has a resistance from 3% to 5% greater.

Gauge No.	Diam. in Mils	Area in Circular Mils	Weight in Lbs. per 1000 Feet	Feet per Pound	RESISTANCE OF PURE COPPER IN INTERNATIONAL		
					Ohms per Ft.	Ohms at 20°C. or 68°F. Feet per Ohm	Ohms per Lb.
0000	460.0	211600.	640.5	1.56	.0000489	20440.	.00007639
000	409.6	167800.	508.0	1.97	.0000617	16210.	.0001215
00	364.8	133100.	402.8	2.49	.0000778	12850.	.0001931
0	324.9	105600.	319.5	3.13	.0000981	10190.	.0003071
1	289.3	83690.	253.3	3.95	.0001237	8083.	.0004883
2	257.6	66370.	200.9	4.98	.0001560	6410.	.0007763
3	229.4	52630.	159.3	6.28	.0001967	5084.	.001235
4	204.3	41740.	126.4	7.91	.0002480	4031.	.001963
5	181.9	33100.	100.2	9.98	.0003128	3197.	.003122
6	162.0	26250.	79.46	12.58	.0003944	2535.	.004963
7	144.3	20820.	63.02	15.87	.0004973	2011.	.007892
8	128.5	16510.	49.98	20.01	.0006271	1595.	.01255
9	114.4	13090.	39.63	25.23	.0007908	1265.	.01995
10	101.9	10380.	31.43	31.85	.0009972	1003.	.03173
11	90.74	8234.	24.93	40.12	.001257	795.5	.05045
12	80.81	6530.	19.77	50.58	.001586	630.5	.08022
13	71.96	5178.	15.68	63.78	.001999	500.1	.1276
14	64.08	4107.	12.43	80.45	.002521	396.6	.2028
15	57.07	3257.	9.86	101.4	.003179	314.5	.3225
16	50.82	2583.	7.82	127.9	.004009	249.4	.5128
17	45.26	2048.	6.20	161.3	.005055	197.8	.8153
18	40.30	1624.	4.92	203.4	.006374	156.9	1.296
19	35.89	1288.	3.90	256.5	.008038	124.4	2.061
20	31.96	1022.	3.09	323.4	.01014	98.62	3.278
21	28.46	810.1	2.45	407.8	.01278	78.24	5.212
22	25.35	642.6	1.95	514.2	.01612	62.05	8.287
23	22.57	509.5	1.54	648.4	.02032	49.21	13.18
24	20.10	404.0	1.22	817.6	.02563	39.02	20.95
25	17.90	320.4	.97	1031.	.03231	30.95	33.32
26	15.94	254.1	.77	1300.	.04075	24.54	52.97
27	14.20	201.5	.61	1639.	.05138	19.46	84.23
28	12.64	159.8	.48	2067.	.06479	15.43	133.9
29	11.26	126.7	.38	2607.	.08170	12.24	213.0
30	10.03	100.5	.30	3287.	.1030	9.707	338.6
31	8.928	79.71	.24	4145.	.1299	7.698	538.4
32	7.950	63.20	.19	5227.	.1638	6.105	856.2
33	7.080	50.13	.15	6591.	.2066	4.841	1361.
34	6.305	39.75	.12	8311.	.2605	3.830	2165.
35	5.615	31.52	.10	10480.	.3284	3.045	3441.
36	5.000	25.00	.08	13210.	.4142	2.414	5473.
37	4.453	19.83	.06	16660.	.5222	1.915	8702.
38	3.965	15.72	.05	21010.	.6585	1.519	13870.
39	3.531	12.47	.04	26500.	.8304	1.204	22000.
40	3.145	9.89	.03	33410.	1.047	.955	34980.

Tables Showing the Differences Between Wire Gauges

No.	Brown & Sharpe	Old English or London	Stubs' or Birmingham	New British Standard	No.	Brown & Sharpe	Old English or London	Stubs' or Birmingham	New British Standard
0000	.460	.454	.454	.400	19	.03589	.040	.042	.040
000	.40964	.425	.425	.372	20	.03196	.035	.035	.036
00	.36480	.380	.380	.348	21	.02846	.0315	.032	.032
0	.32495	.340	.340	.324	22	.025347	.0295	.028	.028
1	.28930	.300	.300	.300	23	.022571	.027	.025	.024
2	.25763	.284	.284	.276	24	.0201	.025	.022	.022
3	.22942	.259	.259	.252	25	.0179	.023	.020	.020
4	.20431	.238	.238	.232	26	.01594	.0205	.018	.018
5	.18194	.220	.220	.212	27	.014195	.01875	.016	.016.4
6	.16202	.203	.203	.192	28	.012641	.0165	.014	.014.8
7	.14428	.180	.180	.176	29	.011257	.0155	.013	.013.4
8	.12849	.165	.165	.160	30	.010025	.01375	.012	.012.6
9	.11443	.148	.148	.144	31	.008928	.01225	.010	.011.6
10	.10189	.134	.134	.128	32	.00795	.01125	.009	.010.8
11	.09074	.120	.120	.116	33	.00708	.01025	.008	.010
12	.08081	.109	.109	.104	34	.0063	.0095	.007	.009.2
13	.07196	.095	.095	.092	35	.00561	.009	.005	.008.4
14	.06408	.083	.083	.080	36	.005	.0075	.004	.007.6
15	.05706	.072	.072	.072	37	.00445	.0065	....	....
16	.05082	.065	.065	.064	38	.003965	.00575	....	....
17	.04525	.058	.058	.056	39	.003531	.005	....	....
18	.04030	.049	.049	.048	40	.003144	.0045	....	....

Properties of Galvanized Telephone and Telegraph Wires

Based on Standard Specifications

Size B. W. G.	Diameter in Mils = d	Area in Circular Mils = d²	APPROXIMATE WEIGHT IN POUNDS		APPROXIMATE BREAKING STRAIN IN POUNDS			RESISTANCE PER MILE (INTERNATIONAL OHMS) AT 68° F. OR 20° C.		
			Per 1000 Feet	Per Mile	Ex. B. B.	B. B.	Steel	Ex B. B.	B. B.	Steel
0	340	115,600	313	1,655	4,138	4,634	4,965	2.84	3.38	3.93
1	300	90,000	244	1,289	3,223	3,609	3,867	3.65	4.34	5.04
2	284	80,656	218	1,155	2,888	3,234	3,465	4.07	4.85	5.63
3	259	67,081	182	960	2,400	2,688	2,880	4.90	5.83	6.77
4	238	56,644	153	811	2,028	2,271	2,433	5.80	6.91	8.01
5	220	48,400	131	693	1,732	1,940	2,079	6.78	8.08	9.38
6	203	41,209	112	590	1,475	1,652	1,770	7.97	9.49	11.02
7	180	32,400	87	463	1,158	1,296	1,389	10.15	12.10	14.04
8	165	27,225	74	390	975	1,092	1,170	12.05	14.36	16.71
9	148	21,904	60	314	785	879	942	14.97	17.84	20.70
10	134	17,956	49	258	645	722	774	18.22	21.71	25.29
11	120	14,400	39	206	515	577	618	22.82	27.19	31.55
12	109	11,881	32	170	425	476	510	27.65	32.94	38.23
13	95	9,025	25	129	310	347	372	37.90	45.16	52.41
14	83	6,889	19	99	247	277	297	47.48	56.56	65.66
15	72	5,184	14	74	185	207	222	63.52	75.68	87.84
16	65	4,225	11	61	152	171	183	77.05	91.80	106.55



How to Remember the Wire Table

Bare Copper Wire

Hard or Soft Drawn

SUMMARY.—The things to be remembered regarding B. & S. gauge copper wire are the following:

A wire which is three sizes larger than another wire has half the resistance, twice the weight and twice the area. A wire which is ten sizes larger than another wire has one-tenth the resistance, ten times the weight and ten times the area.

No. 10 wire is 0.10 inch in diameter (more precisely, 0.102); it has an area of 10,000 circular mils (more precisely, 10,380); it has a resistance of 1 ohm per thousand ft., at 20 degrees Centigrade (68 degrees Fahrenheit), and weighs 32 pounds (more precisely, 31.4 pounds) per thousand feet.

The weight of one thousand feet of No. 5 wire is 100 pounds.

The relative values of resistance (for decreasing sizes) and of weight and area (for increasing sizes) for consecutive sizes are: .50, .63, .80, 1.00, 1.25, 1.60, 2.00.

The relative values of the diameter of alternate sizes of wire are: .50, .63, .80, 1.00, 1.25, 1.60, 2.00.

CIRCULAR MILS.—The conductors of large sizes are usually specified in circular mils. For example, 500,000 circular mils, 750,000 circular mils.

To find resistance, drop one cypher from the number of mils; the result is the number of feet per ohm.

To find weight, drop four cyphers from the number of circular mils and multiply by the weight of No. 10 wire.

Decimal Equivalents

Of eighths, sixteenths, thirty-seconds and sixty-fourths of an inch.

Fractions of an Inch	Decimals of an Inch	Fractions of an Inch	Decimals of an Inch	Fractions of an Inch	Decimals of an Inch	Fractions of an Inch	Decimals of an Inch
$\frac{1}{64} =$	.015625	$\frac{17}{64} =$	.265625	$\frac{33}{64} =$	.515625	$\frac{49}{64} =$	.765625
$\frac{1}{32} =$	.03125	$\frac{9}{32} =$	.28125	$\frac{17}{32} =$	.53125	$\frac{25}{32} =$	.78125
$\frac{3}{64} =$	.046875	$\frac{19}{64} =$	.296875	$\frac{35}{64} =$	.546875	$\frac{51}{64} =$	.796875
$\frac{1}{16} =$	.0625	$\frac{5}{16} =$	.3125	$\frac{11}{16} =$	.6875	$\frac{13}{16} =$	.8125
$\frac{5}{64} =$	.078125	$\frac{21}{64} =$	.328125	$\frac{37}{64} =$	.578125	$\frac{53}{64} =$	.828125
$\frac{3}{32} =$	.09375	$\frac{11}{32} =$	.34375	$\frac{19}{32} =$	.59375	$\frac{27}{32} =$	.84375
$\frac{7}{64} =$	.109375	$\frac{23}{64} =$	.359375	$\frac{39}{64} =$	.609375	$\frac{55}{64} =$	.859375
$\frac{1}{8} =$	.125	$\frac{3}{8} =$	.375	$\frac{5}{8} =$	.625	$\frac{7}{8} =$	.875
$\frac{9}{64} =$	.140625	$\frac{25}{64} =$	.390625	$\frac{41}{64} =$	.640625	$\frac{57}{64} =$	.890625
$\frac{5}{32} =$	.15625	$\frac{13}{32} =$	.40625	$\frac{21}{32} =$	.65625	$\frac{29}{32} =$	.90625
$\frac{11}{64} =$	.171875	$\frac{27}{64} =$	.421875	$\frac{43}{64} =$	.671875	$\frac{59}{64} =$	.921875
$\frac{3}{16} =$	.1875	$\frac{7}{16} =$	.4375	$\frac{11}{16} =$	.6875	$\frac{15}{16} =$	.9375
$\frac{13}{64} =$	.203125	$\frac{29}{64} =$	.453125	$\frac{45}{64} =$	.703125	$\frac{61}{64} =$	.953125
$\frac{1}{4} =$	.25	$\frac{1}{2} =$	.5	$\frac{3}{4} =$	.75		

Feet Expressed in Decimal Parts of a Mile

	Units	Tens	Hundreds	Thousands
1	.000189	.001893	.01893	.1893
2	.000378	.003787	.03787	.3787
3	.000568	.005681	.05681	.5681
4	.000757	.007574	.07574	.7574
5	.000946	.009468	.09468	.9468
6	.001136	.011362	.11362	.....
7	.001325	.013255	.13255	.....
8	.001514	.015148	.15148	.....
9	.001704	.017042	.17042	.....

Dimensions, Weights and Resistances

Am. Gauge B. & S. No.	Diam. Mils.	Circular Mils.	Pounds per 1,000 Ft.	Pounds per Mile	Feet per Pound
0000	460.	211600.	639.33	3375.7	1.56
000	409.640	167805.	507.01	2677.	1.97
00	364.800	133079.40	402.09	2123.	2.49
0	324.950	105592.50	319.04	1684.5	3.13
1	289.300	83691.20	252.88	1335.2	3.95
2	257.630	66373.	200.54	1058.8	4.99
3	229.420	52634.	159.03	839.68	6.29
4	204.310	41742.	126.12	665.91	7.93
5	181.940	33102.	100.01	528.05	10.
6	162.020	26250.50	79.32	418.81	12.61
7	144.280	20816.	62.90	332.11	15.90
8	128.490	16509.	49.88	263.37	20.05
9	114.430	13094.	39.56	208.88	25.28
10	101.890	10381.	31.37	165.63	31.38
11	90.742	8234.	24.88	137.37	40.20
12	80.808	6529.90	19.73	104.18	50.69
13	71.961	5178.39	15.68	82.792	63.78
14	64.084	4106.76	12.44	65.658	80.42
15	57.068	3256.76	9.86	52.069	101.40
16	50.820	2582.67	7.82	41.292	127.87
17	45.257	2048.20	6.20	32.746	161.24
18	40.303	1624.33	4.92	25.970	203.31
19	35.890	1288.09	3.90	20.594	256.39
20	31.961	1021.44	3.09	16.331	323.32
21	28.462	810.09	2.45	12.952	407.67
22	25.347	642.47	1.95	10.272	514.03
23	22.571	509.45	1.54	8.1450	648.25
24	20.100	404.01	1.22	6.4593	817.43
25	17.900	320.41	.97	5.1227	1030.71
26	15.940	254.08	.77	4.0623	1299.77

Am. Gauge B. & S. No.	Ohms per 1,000 Feet	Ohms per Mile	Feet per Ohm	Ohms per Pound
0000	.04906	.25903	20383.	.000076736
000	.06186	.32664	16165.	.00012639
00	.07801	.41187	12820.	.00019423
0	.09831	.51909	10409.	.00030772
1	.12404	.65490	8062.3	.00048994
2	.15640	.82582	6393.7	.00078045
3	.19723	1.0414	5070.2	.0012406
4	.24869	1.3131	4021.	.0019721
5	.31361	1.6558	3188.7	.0031361
6	.39546	2.0881	2528.7	.0049868
7	.49871	2.6331	2005.2	.0079294
8	.62881	3.3201	1590.3	.012608
9	.79281	4.1860	1261.3	.020042
10	1.	5.2800	1000.	.031380
11	1.2607	6.6568	793.18	.050682
12	1.5898	8.3940	629.02	.080585
13	2.0037	10.5798	499.06	.127788
14	2.5266	13.3405	375.79	.203180
15	3.1860	16.8223	313.87	.323079
16	4.0176	21.2130	248.90	.513737
17	5.0660	26.7485	197.39	.816839
18	6.3880	33.7285	156.54	1.298764
19	8.0555	42.5329	124.14	2.065312
20	10.1584	53.6362	98.44	3.284374
21	12.8088	67.6302	78.07	5.221775
22	16.1504	85.2343	61.92	8.301819
23	20.3674	107.540	49.10	13.20312
24	25.6830	135.606	38.94	20.99405
25	32.3833	170.984	30.88	33.37780
26	40.8377	215.623	24.49	53.07946



Wiring Data for Three-phase Motors

Where two or more motors are installed on one circuit, wire used should be equivalent to that needed for running loads of all motors plus 50 per cent of running load of the largest motor on the circuit.

110 Volts

H. P. of Motor	Approx. Full Load Current Amperes	Amperes of Starting Fuses	Amperes of Running Fuses	Amperes of Switch	Size of Wire B. & S. Gauge
1	6	15	10	30	14
2	12	25	20	30	12
3	18	35	25	30	8
5	30	60	40	60	6
7½	42	80	60	100	4
10	56	100	75	100	2
15	84	150	125	200	0
20	104	200	150	200	00
30	156	250	200	200	300000 C.M.

220 Volts

H. P. of Motor	Approx. Full Load Current Amperes	Amperes of Starting Fuses	Amperes of Running Fuses	Amperes of Switch	Size of Wire B. & S. Gauge
1	3	10	6	30	14
2	6	15	10	30	14
3	9	20	15	30	12
5	15	30	20	30	10
7½	21	40	30	60	8
10	28	60	40	60	6
15	42	80	60	100	4
20	52	100	75	100	2
30	78	150	125	200	0
40	105	200	150	200	00
50	133	225	175	200	000
75	184	300	250	400	300000 C.M.
100	245	400	350	400	500000 C.M.

440 Volts

H. P. of Motor	Approx. Full Load Current Amperes	Amperes of Starting Fuses	Amperes of Running Fuses	Amperes of Switch	Size of Wire B. & S. Gauge
1	1.5	5	3	30	14
2	3	10	6	30	14
3	4.5	10	6	30	14
5	7.5	15	10	30	14
7½	10.5	25	15	30	12
10	14	30	20	30	10
15	21	40	30	60	8
20	26	60	40	60	6
30	39	80	60	100	4
40	52	100	75	100	2
50	66.5	125	100	100	1
75	92	150	125	200	00
100	122	225	175	200	000
150	184	300	250	400	300000 C.M.
200	236	400	350	400	500000 C.M.

Recommended Transformer Capacity Only Standard Sizes Recommended

H. P. of Motor	One Three-phase Transformer KV-A	Three Single-phase Transformers Connected In Closed Delta KV-A Each	Two Single-phase Transformers Connected In Open Delta KV-A Each
1	*5	*1	*1
2	*5	*1	*1½
3	*5	1	1½
5	5	1½	2
7½	7½	2	*5
10	10	3	*7½
15	15	5	7½
20	*25	7½	*15
30	*37½	10	15
40	37½	*15	25
50	50	15	*37½
75	75	25	*50
100	100	37½	*75
150	150	50	*100
200	200	*75	*150

*For this size motor, in order to use standard sizes of transformers, it is necessary to use a transformer installation that is oversize for the motor rating. It is a general practice to manufacture transformers in distribution sizes to give maximum efficiency when operating at 75 per cent of full load continuously. The above recommendations will give the most efficient transformer operation for each installation mentioned.

Commercial Copper Wire

98 Per Cent Conductivity

Data applies to solid wires, sizes from No. 18 to No. 1, and in stranded wires and cables No. 0 and larger.

Size of Wire B. & S.	Circular Mils	APPROVED CAPACITY Weather-proof	CARRYING AMPERES Rubber Covered	BARE WIRE Wt., Lbs. per 1000 Ft.	Diam. Inches
18	1624	5	3	4.91	.....
16	2583	10	6	7.81	.....
14	4107	20	15	12.44	.....
12	6530	25	20	19.73	.081
10	10380	30	25	31.37	.102
8	16510	50	35	49.88	.128
6	26250	70	50	79.32	.162
5	33100	80	55	100.01	.182
4	41740	90	70	126.12	.204
3	52630	100	80	159.03	.229
2	66370	125	90	200.54	.258
1	83690	150	100	252.88	.289
0	105500	200	125	322	.375
00	133100	225	150	406	.420
000	167800	275	175	513	.470
0000	211600	325	225	645	.530
.....	200000	300	200	.....	.....
.....	250000	.....	.....	762	.575
.....	300000	500	325	915	.630
.....	350000	450	300	1068	.679
.....	400000	500	325	1220	.728
.....	450000	550	337	1373	.770
.....	500000	600	400	1525	.819
.....	600000	680	450	1830	.891
.....	700000	760	500	2135	.963
.....	800000	840	550	2440	1.056
.....	900000	920	600	2745	1.120
.....	1000000	1000	650	3050	1.152
.....	1200000	1150	730	.....	.....
.....	1400000	1290	810	.....	.....
.....	1500000	1360	850	4575	1.408
.....	1600000	1430	890	.....	.....
.....	1700000	1490	930	.....	.....
.....	1800000	1550	970	.....	.....
.....	1900000	1610	1010	.....	.....
.....	2000000	1670	1050	.....	.....

Size of Wire B. & S.	Circular Mils	3 BRAID W. P. Wt., Lbs. per 1000 Ft.	Diam. Inches	RUBBER COVERED WIRE Wt., Lbs. per 1000 Ft.	Diam. Inches
18	1624	13	1/8	.....	.....
16	2583	17	5/16	.....	.....
14	4107	25	3/8	.....	.....
12	6530	35	1/2	35	.189
10	10380	53	5/8	45.6	.206
8	16510	74	3/4	60.2	.227
6	26250	111	7/8	83.5	.253
5	33100	135	1	129.5	.320
4	41740	164	1 1/8	153.5	.338
3	52630	199	1 1/4	184	.360
2	66370	250	1 3/8	222	.385
1	83690	310	1 1/2	270	.414
0	105500	407	1 5/8	347	.495
00	133100	495	2	422	.530
000	167800	629	2 1/8	540	.611
0000	211600	767	2 1/4	662	.675
.....	250000	942	2 3/8	812	.735
.....	300000	1112	2 1/2	985	.830
.....	350000	1276	2 5/8	1170	.887
.....	400000	1434	3	1340	.940
.....	450000	1653	3 1/8	1515	.988
.....	500000	1823	3 1/4	1687	1.033
.....	600000	2189	3 3/8	1860	1.077
.....	700000	2553	3 1/2	2255	1.188
.....	800000	2893	3 5/8	2605	1.262
.....	900000	3226	4	2960	1.330
.....	1000000	3520	4 1/8	3305	1.392
.....	1200000	.....	.....	3660	1.452
.....	1400000	.....	.....	.....	.....
.....	1500000	4500	4 1/4	.....	.....
.....	1600000	.....	.....	.....	.....
.....	1700000	.....	.....	.....	.....
.....	1800000	.....	.....	.....	.....
.....	1900000	.....	.....	.....	.....
.....	2000000	7000	4 3/8	.....	.....



Gauges of Copper Wire

Table Showing Difference of Gauges in Decimals of an Inch

No. Wire Gauge	Brown & Sharpe			Roebling, A. S. & W. Co. or Washburn & Moen		
	Diam. Inches	WEIGHT, POUNDS Per 1000 Ft.	Per Mile	Diam. Inches	WEIGHT, POUNDS Per 1000 Ft.	Per Mile
6-0				.460	641.20	3385.5
5-0				.430	560.29	2958.3
4-0	.46000	641	3382	.393	468.02	2471.1
3-0	.40964	509	2687	.362	397.09	2096.6
2-0	.36480	403	2129	.331	332	1753
0	.32486	320	1688	.307	285.60	1507.9
1	.28930	253	1335	.283	242.69	1281.4
2	.25763	202	1064	.263	209.60	1106.7
3	.22942	159	838	.244	180.41	952.6
4	.20431	126	665	.225	153.39	809.9
5	.18194	100	529	.207	129.84	685.6
6	.16202	79	419	.192	111.71	589.8
7	.14428	63	331	.177	94.93	501.2
8	.12849	50	262	.162	79.52	419.9
9	.11443	39	208	.148	66.37	350.4
10	.10189	32	166	.135	55.22	291.6
11	.09074	25	132	.120	43.63	230.4
12	.08081	20	105	.105	33.41	176.4
13	.07196	15.7	83	.092	25.65	135.4
14	.06408	12.4	65	.080	19.39	102.4
15	.05706	9.8	52	.072	15.71	82.95
16	.05082	7.9	42	.063	12.03	63.52
17	.04525	6.1	32	.054	8.84	46.67
18	.04030	4.8	25.6	.047	6.69	35.32
19	.03589	3.9	20.7	.041	5.09	26.88
20	.03196	3.1	16.4	.035	3.71	19.59
21	.02846	2.5	13	.032	3.10	16.37
22	.02534	1.9	10.2	.028	2.38	12.57
23	.02257	1.5	8.2	.025	1.89	9.98
24	.02010	1.2	6.5	.023	1.60	8.45
25	.01790	.97	5.1	.020	1.21	6.39
26	.01594	.77	4	.018	.981	5.18
27	.01419	.61	3.2	.017	.876	4.62
28	.01264	.48	2.5	.016	.776	4.09
29	.01125	.39	2	.015	.682	3.60

No. Wire Gauge	English Legal Standard			Birmingham or Stubbs		
	Diam. Inches	WEIGHT, POUNDS Per 1000 Ft.	Per Mile	Diam. Inches	WEIGHT, POUNDS Per 1000 Ft.	Per Mile
6-0	.464	652	3441			
5-0	.432	565	2983			
4-0	.400	484	2557	.454	624	3294
3-0	.372	419	2212	.425	547	2887
2-0	.348	367	1935	.380	437	2308
0	.324	318	1678	.340	350	1847
1	.300	272	1438	.300	272	1438
2	.276	231	1217	.284	244	1280
3	.252	192	1015	.259	203	1072
4	.232	163	860	.238	171	905
5	.212	136	718	.220	146	773
6	.192	112	589	.203	125	659
7	.176	94	495	.180	98	518
8	.160	77	409	.165	82	435
9	.144	63	331	.148	66	350
10	.128	50	262	.134	54	287
11	.116	41	215	.120	44	230
12	.104	33	173	.109	36	190
13	.092	25.6	135	.095	27.3	144
14	.080	19.4	102	.083	20.8	110
15	.072	15.7	83	.072	15.7	83
16	.064	12.4	65	.065	12.8	68
17	.056	9.5	50	.058	10.2	54
18	.048	7	36.8	.049	7.3	38.4
19	.040	4.8	25.6	.042	5.3	28.2
20	.036	3.9	20.7	.035	3.7	19.6
21	.032	3.1	16.4	.032	3.1	16.4
22	.028	2.4	12.5	.028	2.4	12.5
23	.024	1.7	9.2	.025	1.9	10
24	.022	1.5	7.7	.022	1.5	7.7
25	.020	1.2	6.4	.020	1.2	6.4
26	.018	.98	5.2	.018	.98	5.2
27	.0164	.81	4.3	.016	.77	4.1
28	.0148	.66	3.5	.014	.59	3.1
29	.0136	.56	3	.013	.51	2.7

Rigid Conduit

Convertible Table for Various Combinations of Wire Sizes

Conduit Sizes	Conduit Factors	Conduit Sizes	Conduit Factors
1/2	.305	3	7.39
3/4	.533	3 1/2	9.89
1	.866	4	12.73
1 1/4	1.50	4 1/2	15.96
1 1/2	2.04	5	19.99
2	3.36	6	28.89
2 1/2	4.78		

The above factors for conduit are to be used in conjunction with wire factors and are to be used to determine the required conduit size for various combinations of conductors.

Where conductors all of one size are to be used, find gauge numbers in left-hand column and on same horizontal line of figures under heading Number of Wires find wire factor.

Where conductors of different sizes are to be used, proceed as above for each size and add the wire factors. Comparing the sum of these factors with the conduit factors will determine the size conduit required.

The conduit factors must be equal to or greater than the resultant wire factors.

When the wire factor is slightly greater than the nearest conduit factor, the next larger size conduit must be used.

Convertible Table for Various Combinations of Wire Sizes

Wire Size	NUMBER OF WIRES				
	1	2	3	4	5
14 B. & S.	.120	.240	.305	.420	.533
12 "	.150	.305	.375	.450	.533
10 "	.305	.420	.533	.644	.644
8 "	.305	.866	1.19	1.50	1.77
5 "	.533	1.07	1.29	1.50	2.04
4 "	.533	1.07	1.50	2.04	2.37
3 "	.533	1.07	1.50	2.04	2.48
2 "	.533	1.50	1.77	2.04	2.70
1 "	.533	2.04	2.04	2.70	3.36
0 "	.866	2.04	2.04	3.36	4.07
00 "	.866	2.70	3.36	4.07	4.78
000 "	.866	2.70	3.36	4.78	5.65
0000 "	1.50	3.36	4.07	4.78	6.08
200000 C. M.	1.50	3.36	4.78	5.65	6.52
225000 "	1.50	4.07	4.78	6.08	7.39
250000 "	1.50	4.07	4.78	6.08	7.39
300000 "	1.50	4.78	6.08	7.39	8.64
350000 "	1.50	4.78	7.39	8.64	9.89
400000 "	1.50	6.08	7.39	9.89	11.31
450000 "	2.04	6.08	7.39	9.89	12.73
500000 "	2.04	6.08	7.39	9.89	12.73
550000 "	2.04	7.38	9.89	12.73	15.96
600000 "	3.36	7.39	9.89	12.73	15.96
650000 "	3.36	8.64	9.89	12.73	15.96

Wire Size	NUMBER OF WIRES			
	6	7	8	9
14 B. & S.	.616	.700	.783	.866
12 "	.644	.755	.866	1.00
10 "	.866	1.02	1.18	1.34
8 "	1.02	1.18	1.34	1.50
6 "	2.04	2.37	2.70	3.03
5 "	2.37	2.70	3.03	3.36
4 "	2.70	3.03	3.36	4.78
3 "	2.92	3.36	4.07	4.78
2 "	3.36	3.83	4.30	4.78
1 "	4.07	4.78	5.65	6.52
0 "	4.78	5.65	6.52	7.39
00 "	5.65	6.52	7.39	8.64
000 "	6.52	7.39	8.64	9.89
0000 "	7.39	8.64	9.89	11.31
200000 C. M.	7.39	8.64	9.89	11.31
225000 "	8.64	9.89	11.31	12.73
250000 "	8.64	9.89	12.73	14.34
300000 "	9.89	12.73	14.34	15.96
350000 "	12.73	14.34	15.96	17.97
400000 "	12.73	15.96	17.97	19.99
450000 "	14.34	15.96	19.99	24.44
500000 "	15.96	17.97	19.99	24.44
550000 "	17.97	19.99	24.44	28.89
600000 "	19.99	22.96	25.93	28.89
650000 "	19.99	22.96	25.93	28.89

Wiring Tables

Two Per Cent Loss on 110 Volts

Wire sizes given are B. & S. gauge.

Capacity Amperes	DISTANCE IN FEET TO CENTER OF DISTRIBUTION								
	20	30	40	50	60	70	80	90	100
1	..	..	..	..	..	..	..	..	..
1.5	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	16	15	14
4	..	..	..	..	16	15	15	14	14
5	..	..	..	16	15	14	14	13	13
6	..	..	16	15	14	14	13	12	12
7	..	16	15	14	14	13	12	12	11
8	..	16	15	14	13	12	12	11	11
9	..	15	14	13	12	12	11	11	10
10	16	15	14	13	12	11	11	10	10
12	16	14	13	12	11	11	10	9	9
14	15	14	12	11	11	10	9	9	8
16	15	13	12	11	10	9	9	8	8
18	14	12	11	10	9	9	8	8	7
20	14	12	11	10	9	8	8	7	7
25	13	11	10	9	8	7	7	6	6
30	12	10	9	8	7	7	6	6	5
35	11	10	8	7	7	6	5	5	4
40	11	9	8	7	6	5	5	4	4
45	10	9	7	6	6	5	4	4	3
50	10	8	7	6	5	4	4	3	3
60	9	7	6	5	4	4	3	3	2
70	8	7	5	4	4	3	2	2	1
80	8	6	5	4	3	2	2	1	1
90	7	6	4	3	3	2	1	1	0
100	7	5	4	3	2	1	1	0	0
120	6	4	3	2	1	1	0	0	0

Capacity Amperes	DISTANCE IN FEET TO CENTER OF DISTRIBUTION								
	120	140	160	180	200	240	280	320	360
1	..	..	..	..	..	16	15	15	14
1.5	..	..	16	15	15	14	14	13	12
2	16	15	15	14	14	13	12	12	11
3	14	14	13	12	12	11	11	10	9
4	13	12	12	11	11	10	9	9	8
5	12	11	11	10	10	9	8	8	7
6	11	11	10	9	9	8	8	7	7
7	11	10	9	9	8	7	7	6	6
8	10	9	9	8	8	7	7	6	5
9	9	9	8	8	7	7	6	5	5
10	9	8	8	7	7	6	5	5	4
12	8	8	7	7	6	5	5	4	4
14	7	7	6	6	5	5	4	3	3
16	7	7	6	5	5	4	3	3	2
18	7	6	5	5	4	4	3	2	2
20	6	5	5	4	4	3	2	2	1
25	5	4	4	3	3	2	1	1	0
30	4	4	3	3	2	1	1	0	0
35	4	3	2	2	1	1	0	00	00
40	3	2	2	1	1	0	00	00	000
45	3	2	1	1	0	00	00	000	000
50	2	1	1	0	0	00	000	000	0000
60	1	1	0	0	0	000	000	0000	0000
70	1	0	00	00	000	000	0000	0000	....
80	0	00	00	000	000	0000	0000	....	....
90	00	00	000	000	0000	0000	....	....	....
100	00	000	000	0000	0000	....	....	....	....
120	00	000	0000	0000	....	....	....	....	....



Wiring Tables

Two Per Cent Loss on 220 Volts

Wire sizes given are B. & S. gauge.

Cap. Amps.	DISTANCE IN FEET TO CENTER OF DISTRIBUTION									
	20	30	40	50	60	70	80	90	100	
1	..	..	..	..	..	..	..	..	..	..
1.5	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	16
6	..	..	..	..	..	..	16	15	14	15
7	..	..	..	..	..	16	15	14	14	14
8	..	..	..	..	16	15	15	14	14	14
9	..	..	..	..	15	15	14	14	13	13
10	..	..	..	16	15	14	14	13	13	13
12	..	..	16	15	14	14	13	12	12	12
14	..	16	15	14	14	13	12	12	11	11
16	..	16	15	14	13	12	12	11	11	11
18	..	15	14	13	12	12	11	11	10	10
20	16	15	14	13	12	11	11	10	10	10
25	16	14	13	12	11	10	10	9	9	9
30	15	13	12	11	10	10	9	9	8	8
35	14	13	11	10	10	9	8	8	7	7
40	14	12	11	10	9	8	8	7	7	7
45	13	12	10	9	9	8	7	7	6	6
50	13	11	10	9	8	7	7	6	6	6
60	12	10	9	8	7	7	6	6	5	5
70	11	10	8	7	7	6	5	5	4	4
80	11	9	8	7	6	5	5	4	4	4
90	10	9	7	6	6	5	4	4	3	3
100	10	8	7	6	5	4	4	3	3	3
120	9	7	6	5	4	4	3	3	2	2

Cap. Amps.	DISTANCE IN FEET TO CENTER OF DISTRIBUTION									
	120	140	160	180	200	240	250	320	360	
1	..	..	..	..	..	..	..	..	..	..
1.5	..	..	..	..	..	..	..	..	..	16
2	..	..	..	..	..	16	15	15	14	14
3	..	..	16	15	15	14	14	13	12	12
4	16	15	15	14	14	13	12	12	11	11
5	15	14	14	13	13	12	11	11	10	10
6	14	14	13	12	12	11	11	10	9	9
7	14	13	12	12	11	11	10	9	9	9
8	13	12	12	11	11	10	9	9	8	8
9	12	12	11	11	10	9	9	8	8	8
10	12	11	11	10	10	9	8	8	7	7
12	11	11	10	9	9	8	7	7	6	6
14	11	10	9	9	8	7	7	6	6	6
16	10	9	9	8	8	7	6	6	5	5
18	9	9	8	8	7	7	6	5	5	4
20	9	8	8	7	7	6	5	5	4	4
25	8	7	7	6	6	5	4	4	3	3
30	7	7	6	6	5	4	4	3	3	3
35	7	6	5	5	4	4	3	2	2	2
40	6	5	5	4	4	3	2	2	1	1
45	6	5	4	4	3	3	2	1	1	0
50	5	4	4	3	3	2	1	1	0	0
60	4	4	3	3	2	1	1	0	0	0
70	4	3	2	2	1	1	0	00	00	00
80	3	2	2	1	1	0	00	00	000	000
90	3	2	1	1	0	00	00	000	000	000
100	2	1	1	0	0	00	000	000	0000	0000
120	1	1	0	0	00	000	000	0000	0000	0000

Minimum Sized Wire for Motor Services

When Concealed or Partly Concealed Wires are Used

Horse Power	SIZE OF WIRE, B. & S.			Horse Power	SIZE OF WIRE, B. & S.		
	110 Volts	220 Volts	500 Volts		110 Volts	220 Volts	500 Volt.
1/2	14	14	14	25	000	1	6
1	14	14	14	30	0000	0	5
2	12	14	14	40	..	00	3
3	10	14	14	50	..	000	2
4	8	12	14	60	..	0000	1
5	6	10	14	70	..	..	0
7 1/2	4	8	14	80	..	..	00
10	3	6	12	90	..	..	00
15	0	5	10	100	..	..	000
20	00	3	8	120	..	..	0000

Alternating Current Formula

The current per line of a three-phase circuit may be found by employing the following formula: $I = 0.58 \times \frac{W}{E \cdot X \cdot P.F.}$

In this formula I=line current in amperes; W=energy delivered in watts; E=potential between mains in volts; P.F.=power factor. When the power factor cannot be accurately determined it may be assumed to be 0.95 for lighting load with no motors; 0.85 for mixed lighting load and motors; 0.80 for motor load only.

Below will be found a table giving the currents of three-phase circuits based upon 100% P. F. For example: The current per line of a 1000 K. W., 2200 volt circuit, is 262 amperes. By suitably multiplying or dividing the values given, the current for various capacities may be found. For example: The current per line in a 10,000 K. W., 2200 volt circuit, is 2620 amperes.

Currents in 3-phase Circuits at 100% Power Factor

Volts	KILO-WATTS									
	100	200	300	400	500	600	700	800	900	1000
110	525	1050	1570	2100	2620	3150	3670	4200	4720	5250
220	262	525	787	1050	1312	1575	1837	2100	2362	2624
440	131	262	394	525	656	787	919	1050	1181	1312
1100	52.5	105	157	210	262	315	367	420	472	525
2200	26.2	52.5	78.7	105	131	157	184	210	236	262
6600	8.75	17.5	26.2	35.0	43.7	52.5	61.2	70.0	78.7	87.5

Volts	KILO-WATTS									
	100	200	300	400	500	600	700	800	900	1000
11000	5.25	10.5	15.7	21.0	26.2	31.5	36.7	42.0	47.2	52.5
22000	2.62	5.25	7.87	10.5	13.1	15.7	18.4	21.0	23.6	26.2
44000	1.31	2.62	3.94	5.25	6.56	7.87	9.19	10.5	11.8	13.1
66000	.87	1.75	2.62	3.5	4.36	5.25	6.12	7.0	7.87	8.75
110000	.52	1.05	1.57	2.1	2.62	3.15	3.67	4.2	4.72	5.25

Corona Effects on High Tension

Transmission Lines

High potential lines are subject to a phenomenon known as the Corona effect, which consists of a continuous passage of energy through the air between conductors. With high potentials and insufficient spacing distances the energy losses may be an appreciable percentage of the total power transmitted. Corona effect is accompanied by a comparatively high-pitched, hissing sound, and at night is visible as a luminous envelope of bluish light. Proper spacing of the lines is therefore of the greatest importance in order that the Corona effect may be minimized. It has been found that the loss due to the Corona effect takes place at a certain critical voltage. This voltage is variable, depending upon the individual line and atmospheric conditions.

Corona effect losses vary at different seasons of the year, being dependent upon atmospheric conditions, so that a spacing which is correct for one time and locality may be entirely unsuited for another time or locality. Therefore, in designing high tension lines the meteorological conditions should be carefully considered in connection with other essential facts. Below will be found values showing the critical voltage and spacings at which Corona effect ordinarily begins. These values are compiled from various authorities and will meet the ordinary requirements:

Spacing	Critical Voltage	Spacing	Critical Voltage
15 in.	42,000	35 in.	49,000
22 in.	45,000	52 in.	52,000

Approximate Amperes per Terminal for

Alternating Current Induction Motors

For determining size of wires, capacity of fuses, and setting of circuit-breakers:

H. P.	110 Volts		220 Volts		440 Volts		550 Volts		1100 Volts		2200 Volts	
	2-phase	3-phase	2-phase	3-phase	2-phase	3-phase	2-phase	3-phase	2-phase	3-phase	2-phase	3-phase
.5	3.3	3.7	1.7	1.8	.9	1.	..	..	..	..	..	..
1.	6.	6.5	3.	3.2	1.5	1.6	..	..	..	..	..	..
2.	10.5	12.	5.	6.	2.6	3.	2.5	..	..	..	..	..
3.	15.	17.	7.5	9.	3.8	4.5	3.5	..	..	..	..	..
5.	27.	30.	13.	15	6.5	7.5	6.	..	..	..	..	..
10.	..	..	25.	29.	12.5	14.	11.	..	..	..	..	..
15.	..	..	35.	41.	18.	20.	16.	..	..	..	..	..
20.	..	..	48.	55.	24.	27.	22.	..	..	..	..	..
40.	..	..	95.	109.	47.	54.	44.	21.	11.	..	..	..
50.	..	..	110.	127.	55.	64.	52.	27.	13.	..	..	..
75.	..	..	165.	192.	83.	96.	77.	39.	20.	..	..	..
100.	..	..	215.	248.	108.	124.	100.	50.	25.	..	..	..
200.	..	..	410.	475.	205.	237.	192.	98.	49.	..	..	..
300.	..	..	600.	700.	300.	350.	285.	150.	74.	..	..	..

For single-phase motors. Multiply the current per terminal for a two-phase motor by two.



General Wiring Formula

For Alternating and Direct Current Circuits

The following general formula may be used to determine the size of copper conductors, volts loss in lines, current per conductor, and of copper per circuit for any system of electrical distribution.

$$\text{Area of conductor, circular mils} = \frac{D \times W \times C}{P \times E^2}$$

$$\text{Volts loss in lines} = \frac{P \times E \times B}{100}$$

$$\text{Current in main conductors} = \frac{W \times T}{E}$$

$$\text{Pounds copper} = \frac{D^2 \times W \times C \times A}{P \times E \times 1000000}$$

W = Total watts delivered.

D = Distance of transmission (1 way) in feet.

P = Loss in line in per cent of power delivered, that is, of W.

E = Voltage between main conductors at receiving or consumer's end of circuit.

For continuous current C = 2160, T = 1, B = 1, and A = 6.04.

System	Value of A	PER CENT POWER FACTOR				
		100	95	90	85	80
Single-phase.....	6.04	2160	2400	2660	3000	3380
Two-phase (4-wire)	12.08	1080	1200	1330	1500	1690
Three-phase (3-wire).....	9.06	1080	1200	1330	1500	1690

System		PER CENT POWER FACTOR				
		100	95	90	85	80
Single-phase.....	1.00	1.05	1.11	1.17	1.25	
Two-phase (4-wire).....	.50	.53	.55	.59	.62	
Three-phase (3-wire).....	.58	.61	.64	.68	.72	

The value of C for any particular power factor is obtained by dividing 2160, the value for continuous current, by the square of that power factor for single-phase, and by twice the square of that power factor for three-wire three-phase, or four-wire two-phase.

The value of B depends on the size of wire, frequency and power factor. It is equal to 1 for continuous current, and for alternating current with 100 per cent power factor and sizes of wire given in the preceding table of wiring constants.

The figures given are for wires 18 inches apart and are sufficiently accurate for all practical purposes provided the displacement in phase between current and E. M. F. at the receiving end is not very much greater than that at the generator. For example, the constants should not be applied at 125 cycles if the largest conductors are used and the loss 20 per cent or more of the power delivered. At lower frequencies, however, the constants are reasonably correct even under such extreme conditions. They represent about the true values at 10 per cent line loss, are close enough at all losses less than 10 per cent, and often, at least for frequencies up to 40 cycles, close enough for even much larger losses. Where the conductors of a circuit are nearer each other than 18 inches, the volts loss will be less than given by the formula, and if close together, as with multiple conductor cable, the loss will be only that due to resistance.

The value of T depends on the system and power factor. It is equal to 1 for continuous current and for single-phase current of 100 per cent power factor.

The value of A and the weights of the wires in the table are based on .00000302 pound as the weight of a foot of copper wire of 1 circular mil area.

In using the above formula and constants, it should be particularly observed that P stands for the per cent loss in the line of the delivered power, not for the per cent loss in the line of the power at the generator; and that E is the potential at the end of the line and not at the generator.

When the power factor cannot be more accurately determined, it may be assumed to be as follows for any alternating system operating under average conditions: Incandescent lighting and synchronous motors, 95 per cent; lighting and induction motors together, 85 per cent; induction motors alone, 80 per cent.

In continuous current three-wire systems, the neutral wire for feeders should be made of $\frac{1}{2}$ the section obtained by the formula for either of the outside wires. In both continuous and alternating current systems, the neutral conductor for secondary mains and house wiring should be taken as large as the other conductors. The three wires of a three-phase circuit and the four wires of a two-phase circuit should be made all the same size, and each conductor should be of the cross section given by the first formula.

General Wiring Formula

For Alternating and Direct Current Circuits

25 Cycles

Size of Wire B. & S.	Area Wire Cir. Mils	Wt., Lbs. Bare Wire per 1000 Ft.	Resistance Ohms per 1000 Ft. at 20° C.	VALUE OF B			
				PER 95	PER 90	PER 85	PER 80
0000	211600	640.73	.04879	1.23	1.29	1.33	1.34
000	167805	508.12	.06154	1.18	1.22	1.24	1.24
00	133079	402.97	.07758	1.14	1.16	1.16	1.16
0	105560	319	.09775	1.10	1.11	1.10	1.09
1	83694	253.43	.1234	1.07	1.07	1.05	1.03
2	66373	200.98	.1556	1.05	1.04	1.02	1
3	52633	159.38	.1962	1.03	1.02	1	1
4	41742	126.40	.2473	1.02	1	1	1
5	33102	100.23	.3120	1	1	1	1
6	26250	79.49	.3934	1	1	1	1
7	20816	63.03	.4959	1	1	1	1
8	16509	49.99	.6250	1	1	1	1
9	13090	39.60	.7886	1	1	1	1
10	10382	31.40	.9940	1	1	1	1

40 Cycles

Size of Wire B. & S.	Area Wire Cir. Mils	Wt., Lbs. Bare Wire per 1000 Ft.	Resistance Ohms per 1000 Ft. at 20° C.	VALUE OF B			
				PER 95	PER 90	PER 85	PER 80
0000	211600	640.73	.04879	1.52	1.53	1.61	1.67
000	167805	508.12	.06154	1.40	1.41	1.48	1.51
00	133079	402.97	.07758	1.25	1.32	1.35	1.37
0	105560	319	.09775	1.19	1.24	1.26	1.26
1	83694	253.43	.1234	1.14	1.17	1.18	1.17
2	66373	200.98	.1556	1.11	1.12	1.12	1.10
3	52633	159.38	.1962	1.07	1.08	1.07	1.05
4	41742	126.40	.2473	1.05	1.06	1.03	1
5	33102	100.23	.3120	1.03	1.01	1	1
6	26250	79.49	.3934	1.02	1	1	1
7	20816	63.03	.4959	1.01	1	1	1
8	16509	49.99	.6250	1	1	1	1
9	13090	39.60	.7886	1	1	1	1
10	10382	31.40	.9940	1	1	1	1

60 Cycles

Size of Wire B. & S.	Area Wire Cir. Mils	Wt., Lbs. Bare Wire per 1000 Ft.	Resistance Ohms per 1000 Ft. at 20° C.	VALUE OF B			
				PER 95	PER 90	PER 85	PER 80
0000	211600	640.73	.04879	1.62	1.84	1.99	2.09
000	167805	508.12	.06154	1.49	1.66	1.77	1.95
00	133079	402.97	.07758	1.34	1.52	1.60	1.66
0	105560	319	.09775	1.31	1.40	1.46	1.49
1	83694	253.43	.1234	1.24	1.30	1.34	1.36
2	66373	200.98	.1556	1.18	1.23	1.25	1.26
3	52633	159.38	.1962	1.14	1.17	1.18	1.17
4	41742	126.40	.2473	1.11	1.12	1.11	1.10
5	33102	100.23	.3120	1.08	1.08	1.06	1.04
6	26250	79.49	.3934	1.05	1.04	1.02	1
7	20816	63.03	.4958	1.03	1.02	1	1
8	16509	49.99	.6250	1.02	1	1	1
9	13090	39.60	.7886	1	1	1	1
10	10382	31.40	.9940	1	1	1	1

125 Cycles

Size of Wire B. & S.	Area Wire Cir. Mils	Wt., Lbs. Bare Wire per 1000 Ft.	Resistance Ohms per 1000 Ft. at 20° C.	VALUE OF B			
				PER 95	PER 90	PER 85	PER 80
0000	211600	640.73	.04879	2.35	2.86	3.24	3.49
000	167805	508.12	.06154	2.08	2.48	2.77	2.94
00	133079	402.97	.07758	1.86	2.18	2.40	2.57
0	105560	319	.09775	1.71	1.96	2.13	2.25
1	83694	253.43	.1234	1.56	1.75	1.88	1.97
2	66373	200.98	.1556	1.45	1.60	1.70	1.77
3	52633	159.38	.1962	1.35	1.46	1.53	1.57
4	41742	126.40	.2473	1.27	1.35	1.40	1.43
5	33102	100.23	.3120	1.21	1.27	1.30	1.31
6	26250	79.49	.3934	1.16	1.20	1.21	1.21
7	20816	63.03	.4958	1.12	1.14	1.14	1.13
8	16509	49.99	.6250	1.09	1.10	1.09	1.07
9	13090	39.60	.7886	1.06	1.06	1.04	1.02
10	10382	31.40	.9940	1.04	1.03	1	1



Amperes in Alternating Current Circuits

By Permission of the Electrical World

The following tables give the amperes per lead wire per kilowatt for single-phase and three-phase balanced loads. The single-phase table can be used for two-phase balanced loads by using a current value corresponding to twice the stated potential of the circuit or by dividing the current value at the potential of the circuit by two. That is, each wire of a two-phase circuit carries one half of the current indicated at the load specified. These tables show the value of the current at power factors varying from unity to 70 per cent. The power of any circuit in kilowatts can, therefore, be computed by dividing the reading of the ammeter by the tabulated value corresponding to the measured power factor and voltage of the circuit. These values are correct only for a balanced load (and there is generally a slight unbalancing of the loads on the phases), but the table is useful in computing the sizes of wire required for transmission purposes.

This table was derived from the following formulas:

For single-phase circuits: Amperes per wire = watts ÷ (volts × power factor).

For three-phase circuits: Amperes per wire = total watts ÷ (volts between wires × power factor — $\sqrt{3}$).

For two-phase circuits: Amperes per wire = total watts ÷ (volts between wires of one phase × power factor × 2).

In making the computations the number of watts was assumed as 1000, and the amperes were computed for various values of e.m.f. to a sufficient number of decimal places to insure accuracy. The tables were then extended by multiplication and division. If desired, these tables can be further extended to cover voltages outside of their limits by using the tabular values corresponding to potentials of one tenth (or 10 times) the desired potential, care being used to shift the decimal point in the proper direction.

The values for intermediate power factors can be approximated from the tables. For lower power factors, the value of the current for unity power factor can be divided by actual power factor of the circuit or multiplied by the reciprocal of this power factor.

Single-phase Circuits

Amperes for One Kilowatt at Different Power Factors

Volts	POWER FACTOR IN PER CENT					
	100	95	90	85	80	70
100	10.0000	10.5263	11.1111	11.7647	12.5000	13.3333
110	9.0909	9.5693	10.1010	10.6522	11.3636	12.1211
115	8.6957	9.1533	9.6619	10.2302	10.8696	11.5942
120	8.3333	8.7719	9.2592	9.8040	10.4166	11.1111
125	8.0000	8.4211	8.8889	9.4118	10.0000	10.6667
130	7.6923	8.0972	8.5470	9.0498	9.6154	10.2564
140	7.1429	7.5188	7.9365	8.4034	8.9285	9.5238
150	6.6667	7.0176	7.4074	7.8431	8.3333	8.8889
160	6.2500	6.5790	6.9444	7.3529	7.8125	8.3333
170	5.8824	6.1919	6.5360	6.9205	7.3530	7.8431
180	5.5556	5.8480	6.1729	6.5359	6.9445	7.4074
190	5.2632	5.5402	5.8480	6.1919	6.5790	7.0176
200	5.0000	5.2632	5.5556	5.8824	6.2500	6.6667
210	4.7619	5.0125	5.2910	5.6022	5.9524	6.3492
220	4.5455	4.7847	5.0505	5.3476	5.6819	6.0606
225	4.4444	4.6784	4.9382	5.2288	5.5556	5.9259
230	4.3479	4.5766	4.8309	5.1151	5.4349	5.7971
240	4.1667	4.3860	4.6296	4.9020	5.2084	5.5556
250	4.0000	4.2105	4.4444	4.7059	5.0000	5.3333
300	3.3333	3.5088	3.7037	3.9216	4.1666	4.4444
330	3.0303	3.1897	3.3670	3.5651	3.7879	4.0404
350	2.8572	3.0075	3.1746	3.3613	3.5715	3.8095
400	2.5000	2.6316	2.7778	2.9412	3.1250	3.3333
440	2.2727	2.3923	2.5252	2.6738	2.8409	3.0303
450	2.2222	2.3392	2.4691	2.6144	2.7778	2.9630
500	2.0000	2.1053	2.2222	2.3529	2.5000	2.6667
550	1.8182	1.9139	2.0202	2.1390	2.2728	2.4242
600	1.6667	1.7544	1.8519	1.9608	2.0834	2.2222
700	1.4286	1.5037	1.5873	1.6807	1.7857	1.9048
800	1.2500	1.3158	1.3889	1.4706	1.5625	1.6667

Amperes in Alternating Current Circuits

By Permission of the Electrical World

Single-phase Circuits—Continued

Amperes for One Kilowatt at Different Power Factors

Volts	POWER FACTOR IN PER CENT					
	100	95	90	85	80	70
900	1.1111	1.1696	1.2345	1.3072	1.3889	1.4815
1000	1.0000	1.0527	1.1111	1.1765	1.2500	1.3333
1100	0.9091	0.9569	1.0101	0.0695	1.1364	1.2121
1200	0.8333	0.8772	0.9259	0.9804	1.0417	1.1111
1300	0.7692	0.8097	0.8547	0.9050	0.9615	1.0256
1400	0.7143	0.7519	0.7936	0.8403	0.8929	0.9524
1500	0.6667	0.7018	0.7407	0.7843	0.8333	0.8889
1600	0.6250	0.6579	0.6944	0.7353	0.7812	0.8333
1700	0.5882	0.6192	0.6536	0.6921	0.7353	0.7843
1800	0.5556	0.5848	0.6173	0.6536	0.6944	0.7407
1900	0.5263	0.5540	0.5848	0.6192	0.6579	0.7018
2000	0.5000	0.5263	0.5556	0.5882	0.6250	0.6667
2100	0.4762	0.5013	0.5291	0.5602	0.5952	0.6349
2200	0.4545	0.4785	0.5050	0.5348	0.5682	0.6061
2300	0.4348	0.4577	0.4831	0.5115	0.5435	0.5797
2400	0.4167	0.4386	0.4630	0.4902	0.5208	0.5556
2500	0.4000	0.4210	0.4444	0.4706	0.5000	0.5333
3000	0.3333	0.3509	0.3704	0.3922	0.4167	0.4444
3300	0.3030	0.3190	0.3367	0.3565	0.3788	0.4040
3500	0.2857	0.3007	0.3175	0.3361	0.3571	0.3809
4000	0.2500	0.2632	0.2778	0.2941	0.3125	0.3333
4500	0.2222	0.2339	0.2469	0.2614	0.2778	0.2963
5000	0.2000	0.2105	0.2222	0.2353	0.2500	0.2667
6000	0.1667	0.1754	0.1852	0.1961	0.2083	0.2222
6600	0.1515	0.1595	0.1684	0.1783	0.1894	0.2020
7000	0.1429	0.1504	0.1587	0.1681	0.1786	0.1905
8000	0.1250	0.1316	0.1389	0.1471	0.1563	0.1667
9000	0.1111	0.1170	0.1234	0.1307	0.1389	0.1481
10000	0.1000	0.1053	0.1111	0.1177	0.1250	0.1333
11000	0.0909	0.0957	0.1010	0.1070	0.1136	0.1212
12000	0.0833	0.0877	0.0926	0.0980	0.1042	0.1110
13000	0.0769	0.0810	0.0855	0.0905	0.0962	0.1026
14000	0.0714	0.0752	0.0794	0.0840	0.0893	0.0952
15000	0.0667	0.0702	0.0741	0.0784	0.0833	0.0889
16000	0.0625	0.0658	0.0694	0.0735	0.0781	0.0833
17000	0.0588	0.0619	0.0654	0.0692	0.0735	0.0784
18000	0.0556	0.0585	0.0617	0.0654	0.0694	0.0741
19000	0.0526	0.0554	0.0585	0.0619	0.0658	0.0702
20000	0.0500	0.0526	0.0556	0.0588	0.0625	0.0667
25000	0.0400	0.0421	0.0444	0.0471	0.0500	0.0533
30000	0.0333	0.0351	0.0370	0.0392	0.0417	0.0444
35000	0.0286	0.0301	0.0317	0.0336	0.0357	0.0381
40000	0.0250	0.0263	0.0278	0.0294	0.0313	0.0333
45000	0.0222	0.0234	0.0247	0.0261	0.0278	0.0296
50000	0.0200	0.0211	0.0222	0.0235	0.0250	0.0267
55000	0.0182	0.0191	0.0202	0.0214	0.0227	0.0242
60000	0.0167	0.0175	0.0185	0.0196	0.0208	0.0222

Three-phase Circuits

Amperes per Wire for One Kilowatt at Different Power Factors

Volts	POWER FACTOR IN PER CENT					
	100	95	90	85	80	70
100	5.7735	6.0774	6.4150	6.7924	7.2169	7.6980
110	5.2486	5.5249	5.8319	6.1749	6.5608	6.9982
115	5.0204	5.2847	5.5783	5.9064	6.2756	6.6939
120	4.8112	5.0645	5.3458	5.6603	6.0141	6.4150
125	4.6188	4.8619	5.1320	5.4339	5.7735	6.1584
130	4.4411	4.6749	4.9346	5.2249	5.5514	5.9215
140	4.1240	4.3410	4.5821	4.8517	5.1549	5.4986
150	3.8490	4.0516	4.2767	4.5283	4.8112	5.1320
160	3.6084	3.7984	4.0094	4.2453	4.5105	4.8112
170	3.3962	3.5749	3.7735	3.9955	4.2453	4.5282
180	3.2075	3.3763	3.5639	3.7735	4.0094	4.2767
190	3.0387	3.1986	3.3763	3.5749	3.7984	4.0516
200	2.8867	3.0387	3.2075	3.3962	3.6084	3.8490
210	2.7493	2.8940	3.0548	3.2345	3.4366	3.6657
220	2.6243	2.7624	2.9159	3.0874	3.2804	3.4992



Amperes in Alternating Current Circuits

By Permission of the Electrical World

Three-phase Circuits—Continued

Amperes per Wire for One Kilowatt at Different Power Factors

Volts	100	95	POWER FACTOR IN PER CENT				
			90	85	80	75	70
225	2.5660	2.7010	2.8511	3.0188	3.2075	3.4213	3.6657
230	2.5102	2.6423	2.7891	2.9532	3.1378	3.3470	3.5860
240	2.4056	2.5322	2.6729	2.8301	3.0070	3.2075	3.4366
250	2.3094	2.4310	2.5660	2.7170	2.8867	3.0792	3.2992
300	1.9245	2.0258	2.1384	2.2642	2.4056	2.5660	2.7493
330	1.7495	1.8416	1.9439	2.0583	2.1869	2.3327	2.4960
350	1.6496	1.7364	1.8328	1.9406	2.0620	2.1994	2.3566
400	1.4434	1.5194	1.6038	1.6981	1.8042	1.9245	2.0620
440	1.3122	1.3812	1.4579	1.5437	1.6402	1.7495	1.8745
450	1.2830	1.3505	1.4256	1.5094	1.6037	1.7107	1.8329
500	1.1547	1.2155	1.2830	1.3585	1.4434	1.5396	1.6496
550	1.0497	1.1050	1.1664	1.2350	1.3121	1.3996	1.4996
600	.9622	1.0129	1.0692	1.1321	1.2028	1.2830	1.3746
700	.8248	.8682	.9164	.9703	1.0310	1.0997	1.1783
800	.7217	.7597	.8019	.8491	.9021	.9623	1.0310
900	.6415	.6753	.7128	.7547	.8019	.8553	.9164
1000	.5774	.6077	.6415	.6792	.7217	.7698	.8248
1100	.5249	.5525	.5832	.6175	.6561	.6998	.7498
1200	.4811	.5064	.5346	.5660	.6014	.6413	.6873
1300	.4441	.4675	.4935	.5225	.5551	.5922	.6344
1400	.4124	.4341	.4582	.4852	.5155	.5499	.5891
1500	.3849	.4052	.4277	.4528	.4811	.5132	.5499
1600	.3608	.3798	.4009	.4245	.4511	.4811	.5155
1700	.3396	.3575	.3774	.3996	.4245	.4528	.4852
1800	.3207	.3376	.3564	.3773	.4009	.4277	.4582
1900	.3039	.3199	.3376	.3575	.3798	.4052	.4341
2000	.2807	.3039	.3207	.3396	.3608	.3849	.4124
2100	.2749	.2894	.3055	.3234	.3437	.3666	.3928
2200	.2624	.2762	.2916	.3087	.3280	.3499	.3749
2300	.2510	.2642	.2789	.2953	.3138	.3347	.3586
2400	.2406	.2532	.2673	.2830	.3007	.3208	.3437
2500	.2309	.2431	.2566	.2717	.2887	.3079	.3299
3000	.1924	.2026	.2138	.2264	.2406	.2566	.2749
3300	.1749	.1842	.1944	.2058	.2187	.2333	.2499
3500	.1650	.1736	.1833	.1941	.2062	.2199	.2357
4000	.1443	.1519	.1604	.1698	.1804	.1924	.2062
4500	.1283	.1350	.1426	.1509	.1604	.1711	.1833
5000	.1155	.1216	.1283	.1358	.1443	.1540	.1650
6000	.0962	.1013	.1069	.1132	.1203	.1283	.1375
6600	.0875	.0921	.0972	.1029	.1093	.1167	.1249
7000	.0825	.0868	.0916	.0970	.1031	.1100	.1178
8000	.0722	.0760	.0802	.0849	.0902	.0962	.1031
9000	.0641	.0675	.0713	.0755	.0802	.0855	.0916
10000	.0577	.0608	.0642	.0679	.0722	.0770	.0825
11000	.0525	.0552	.0583	.0617	.0656	.0700	.0750
12000	.0481	.0506	.0535	.0566	.0601	.0642	.0687
13000	.0444	.0467	.0493	.0522	.0555	.0592	.0634
14000	.0412	.0434	.0458	.0485	.0515	.0550	.0589
15000	.0385	.0405	.0428	.0453	.0481	.0513	.0550
16000	.0361	.0380	.0401	.0425	.0451	.0481	.0515
17000	.0340	.0357	.0377	.0399	.0425	.0453	.0485
18000	.0321	.0338	.0356	.0377	.0401	.0428	.0458
19000	.0304	.0320	.0338	.0357	.0380	.0405	.0434
20000	.0289	.0304	.0321	.0340	.0361	.0385	.0412
25000	.0231	.0243	.0257	.0272	.0289	.0308	.0330
30000	.0192	.0203	.0214	.0226	.0241	.0257	.0275
33000	.0175	.0184	.0194	.0206	.0219	.0233	.0250
35000	.0165	.0174	.0183	.0194	.0206	.0220	.0236
40000	.0144	.0152	.0160	.0170	.0180	.0192	.0206
45000	.0128	.0135	.0143	.0151	.0160	.0171	.0183
50000	.0115	.0122	.0128	.0136	.0144	.0154	.0165
55000	.0105	.0111	.0117	.0124	.0131	.0140	.0150
60000	.0096	.0101	.0107	.0113	.0120	.0128	.0137

Wiring Data for Three-phase Motors

Where two or more motors are installed on one circuit, wire used should be equivalent to that needed for running loads of all motors plus 50 per cent of running load of the largest motor on the circuit.

110 Volts

H. P. of Motor	Approx. Full Load Current Amperes	Amperes of Starting Fuses	Amperes of Running Fuses	Amperes of Switch	Size of Wire B. & S. Gauge
1	6	15	10	30	14
2	12	25	20	30	12
3	18	35	25	30	8
5	30	60	40	60	6
7½	42	80	60	100	4
10	56	100	75	100	2
15	84	150	125	200	0
20	104	200	150	200	00
30	156	250	200	200	300000 C.M.

220 Volts

H. P. of Motor	Approx. Full Load Current Amperes	Amperes of Starting Fuses	Amperes of Running Fuses	Amperes of Switch	Size of Wire B. & S. Gauge
1	3	10	6	30	14
2	6	15	10	30	14
3	9	20	15	30	12
5	15	30	20	30	10
7½	21	40	30	60	8
10	28	60	40	60	6
15	42	80	60	100	4
20	52	100	75	100	2
30	78	150	125	200	0
40	105	200	150	200	00
50	133	225	175	200	000
75	184	300	250	400	300000 C.M.
100	245	400	350	400	500000 C.M.

440 Volts

H. P. of Motor	Approx. Full Load Current Amperes	Amperes of Starting Fuses	Amperes of Running Fuses	Amperes of Switch	Size of Wire B. & S. Gauge
1	1.5	5	3	30	14
2	3	10	6	30	14
3	4.5	10	6	30	14
5	7.5	15	10	30	14
7½	10.5	25	15	30	12
10	14	30	20	30	10
15	21	40	30	60	8
20	26	60	40	60	6
30	39	80	60	100	4
40	52.5	100	75	100	2
50	66.5	125	100	100	1
75	92	150	125	200	00
100	122.5	225	175	200	000
150	184	300	250	400	300000 C.M.
200	236	400	350	400	500000 C.M.

Fusing Effects of Currents

Table Showing the Amperes Required to Fuse Wires of Various Sizes and Materials

Size B. & S.	Diam. d	d 3/2	Copper a=10244	Aluminum a=7585	Platinum a=5172
14	.08	.022627	231.8	171.6	117.
16	.064	.016191	165.8	122.8	83.73
18	.048	.010516	107.7	79.75	54.37
20	.036	.006831	69.97	51.18	35.33
22	.028	.004685	48	35.53	24.23
24	.022	.003263	33.43	24.75	16.88
26	.018	.002415	24.74	18.32	12.49
28	.0148	.001801	18.44	13.66	9.311
30	.0124	.001381	14.15	10.47	7.142
32	.0108	.001122	11.5	8.512	5.805
Size B. & S.	Diam. d	d 3/2	Nickel Silver a=5230	Iron a=13148	Lead a=1379
14	.08	.022627	118.3	71.22	31.2
16	.064	.016191	84.68	50.96	22.32
18	.048	.010516	54.99	33.1	14.5
20	.036	.006831	35.72	21.5	9.419
22	.028	.004685	24.5	14.75	6.461
24	.022	.003263	17.06	10.27	4.499
26	.018	.002415	12.63	7.602	3.33
28	.0148	.001801	9.416	5.667	2.483
30	.0124	.001381	7.222	4.347	1.904
32	.0108	.001122	5.87	3.533	1.548



Wiring for D.C. Motor Services

Carrying Capacity Copper Wire

Size B. & S.	Diameter Inches	Pounds Bare Copper per 1000 Feet	Carrying Capacity Rubber Insulation Amperes
14	.064	12.4	15
12	.081	19.7	20
10	.102	31.4	25
8	.128	49.9	35
6	.162	79.4	50
4	.204	126	70
3	.229	159	90
2	.258	201	90
1	.289	253	100
0	.325	319	125
00	.365	492	150
000	.410	507	175
0000	.460	640	225

Transmission of Horse Powers with 1 Volt Loss

HORSE POWER AT			Load of Motor Amps.	DISTANCE IN FEET DIFFERENT HORSE POWERS CAN BE TRANSMITTED WITH 1 VOLT LOSS					
110V.	220V.	500V.		1	2	3	4	5	6
...	...	1/2	1	192	308	490	778	1232	1920
...	...	1	2	96	154	245	389	616	960
...	1/2	...	2.30	83	135	213	348	535	834
...	...	2	4	48	77	122	194	308	480
1/2	1	...	4.50	43	68	108	173	273	426
...	...	3	6	32	51	81	127	205	320
...	...	4	7.50	25	40	65	104	164	258
1	2	...	9	21	34	54	86	137	213
...	...	7 1/2	9.30	20	33	53	84	132	206
...	3	...	12.50	15	24	40	61	100	153
...	...	10	16.50	...	18	29	47	76	118
2	4	...	18	...	...	27	43	68	106
...	5	...	21.10	...	...	23	37	58	91
3	...	15	25	...	...	20	30	50	76
...	7 1/2	...	28.20	...	...	27	43	68	...
4	...	20	33.15	...	...	23	37	58	...
...	10	...	37.60	...	...	...	32	51	...
5	...	25	42	...	...	...	29	45	...
...	...	30	49.70	...	...	...	...	39	...
7 1/2	15	...	56.50	...	...	...	...	34	...
...	...	40	66.30	...	...	...	...	...	...

HORSE POWER AT			Load of Motor Amps.	DISTANCE IN FEET DIFFERENT HORSE POWERS CAN BE TRANSMITTED WITH 1 VOLT LOSS					
110V.	220V.	500V.		1	2	3	4	5	6
...	...	1/2	1	2433	3122	3940	4928	6271	...
...	...	1	2	1216	1561	1970	2464	3135	...
...	1/2	...	2.30	1057	1357	1713	2142	2726	...
...	...	2	4	608	780	985	1232	1567	...
1/2	1	...	4.50	540	700	875	1095	1395	...
...	...	3	6	405	520	656	821	1045	...
...	...	4	7.50	328	416	525	657	836	...
1	2	...	9	270	347	438	547	697	...
...	...	7 1/2	9.30	261	335	423	530	674	...
...	3	...	12.50	194	250	315	394	501	...
...	...	10	16.50	147	189	239	298	380	...
2	4	...	18	135	173	219	273	348	...
...	5	...	21.10	115	146	186	233	297	...
3	...	15	25	97	125	157	197	250	...
...	7 1/2	...	28.20	86	110	140	174	222	...
4	...	20	33.15	76	94	119	148	189	...
...	10	...	37.60	64	83	104	131	164	...
5	...	25	42	58	73	93	116	143	...
...	...	30	49.70	49	64	79	99	126	...
7 1/2	15	...	56.50	43	55	70	87	111	...
...	...	40	66.30	36	47	60	79	95	...
10	20	...	75.30	32	41	52	65	82	...
...	...	50	82.80	...	37	47	59	75	...
...	25	...	94.10	...	...	41	52	66	...
...	...	60	99.40	...	...	39	49	63	...
15	30	...	113	...	...	...	43	55	...
...	...	70	116	...	...	...	42	54	...
...	...	80	132	...	...	...	...	47	...
20	40	90	150	...	...	...	...	41	...

Wiring for D. C. Motors

How to Use Motor Tables

The table shown on previous page is compiled on a basis of 1 volt loss for convenience in using the table on other percentages of loss. It is usual to allow a loss of more than 1 volt for motor service. In such case, divide the distance by the loss allowed, which will give the number of feet in which a loss of 1 volt will occur. Find this number of feet on the table at the horse power and voltage required and you will have necessary size of wire.

EXAMPLE.—A 5 horse power 220-volt motor, 400 feet from service, at 8 volts loss.

EXPLANATION.—A loss of 8 volts for 400 feet would be equal to a loss of 1 volt for 50 feet (400 divided by 8 equals 50). By referring to table we find that to carry a 5 horse power, 220-volt motor, 50 feet with a volt loss, a 6 B. & S. wire is required, which means that the same wire would be required to do the work called for by the example.

Always take the nearest number above rather than below in the table to the number of feet actually required. Do not use a smaller wire than given in following table.

Minimum Size Wire for Motor Service

Horse Power	SIZE OF WIRE, B. & S.—				Horse Power	SIZE OF WIRE, B. & S.—			
	110 Volts	220 Volts	500 Volts	600 Volts		110 Volts	220 Volts	500 Volts	600 Volts
1/2	14	14	14	10	2	2	5	10	10
1	14	14	14	15	3	00	3	8	8
2	10	14	14	20	4	000	2	6	6
3	8	12	14	25	5	0000	1	5	5
4	6	10	14	30	6	...	00	4	4
5	5	8	14	40	7 1/2	...	000	2	2
7 1/2	3	6	12	50	...	...	0000	1	1

Amperes per Motor

Horse Power	Per Cent of Effi- ciency	Watts	OPERATING VOLTAGE			
			110	220	500	600
1/2	75	497	4.5	2.25	1	.83
3/4	75	746	6.78	3.38	1.48	1.24
1	75	995	9	4.5	2	1.66
1 1/2	80	1492	13.56	6.78	2.98	2.48
2	80	1865	16.9	8.5	3.8	3.1
3	80	2797	25.4	12.7	5.59	4.66
4	80	3730	33.8	16.9	7.5	6.2
5	80	4662	42.3	21.1	9.32	7.77
7 1/2	90	6217	56.5	28.2	12.43	10.36
10	90	8288	75.3	37.6	16.57	13.81
15	90	12433	113	56.5	24.86	20.72
20	90	16578	150	75.3	33.15	27.63
25	90	20722	188	94.1	41.6	34.5
30	90	24866	226	113	49.7	41.4
40	90	33155	301	150	66.3	55.2
50	90	41444	376	188	82.8	69
60	90	49733	452	226	99.4	82.8
70	90	58022	527	263	116	96.7
80	90	66311	602	301	132	110
90	90	74599	678	339	149	124
100	90	82888	753	376	165	138
120	90	99459	904	452	198	165
150	90	24312	1131	565	248	207

Amperes per Horse Power in D. C. Motors

Voltage	Efficiency of Motor			
	75 Per Cent	80 Per Cent	85 Per Cent	90 Per Cent
110	9	8.4	7.9	7.5
220	4.5	4.2	3.95	3.75
500	1.98	1.86	1.75	1.66



Full-load Currents of Motors

The following data are approximate full-load currents for motors of various types, frequencies, speeds, and manufacture. They have been compiled from average values for representative motors of their respective classes. Variations of 10 per cent above or below the values given may be expected.

Amperes—Full-load Current Alternating Current Motors

H. P. of Motor	Direct-current Motors			Single- phase Type RI Motors		Squirrel-cage Induction Motors									
	115- volt	230- volt	550- volt	110- volt	220- volt	110- volt	220- volt	Two-PHASE 440- volt	550- volt	2200- volt	110- volt	220- volt	Three-PHASE 440- volt	550- volt	2200- volt
1/4	2.4	1.2				1.9	1.0	0.5	0.4		2.2	1.1	0.6	0.5	
1/2	4.8	2.4		6.4	3.2	3.5	1.7	0.9	0.7		4.0	2.0	1.0	0.8	
3/4	7.0	3.5	1.5	9.0	4.5	4.8	2.4	1.2	1.0		5.6	2.8	1.4	1.1	
1	9.2	4.6	1.9	11.8	5.9	6.0	3.0	1.6	1.2		7.0	3.5	1.8	1.4	
1 1/2	13.2	6.6	2.8	16.8	8.4	8.6	4.3	2.2	1.7		10.0	5.0	2.5	2.0	
2	17.2	8.6	3.6	22.0	11.0	11.0	5.5	2.8	2.2		12.8	6.4	3.2	2.6	
3	25.0	12.6	5.3	31.	15.5	16.0	8.0	4.0	3.2		18.4	9.2	4.6	3.7	
5	40.	20.0	8.4	48.	24.0	26.0	13.0	6.5	5.2		30.	15.0	7.5	6.0	
7 1/2	60.	30.0	12.5	68.	34.	38.	19.0	9.5	7.6		44.	22.0	11.0	8.8	
10	78.	39.	16.3	88.	44.	48.	24.0	12.0	9.6		56.	28.0	14.0	11.2	
15	116.	58.	24.0	128.	64.	70.	35.	17.0	14.0	3.6	80.	40.	20.0	16.0	4.1
20	152.	76.	32.	164.	82.	90.	45.	23.0	18.0	4.6	104.	52.	26.0	21.0	5.4
25	188.	94.	39.			112.	56.	28.0	22.0	5.7	130.	65.	33.	26.0	6.7
30	224.	112.	47.			132.	66.	33.	26.0	6.8	152.	76.	38.	31.	7.8
40	294.	147.	62.			174.	87.	43.	35.	9.0	200.	100.	50.	40.	10.3
50	368.	184.	77.			216.	108.	54.	43.	11.1	250.	125.	63.	50.	12.9
60	440.	220.	92.			260.	130.	65.	52.	13.4	300.	150.	75.	60.	15.5
75	550.	275.	115.			320.	160.	80.	64.	16.5	370.	185.	93.	74.	19.0
100	720.	360.	150.			430.	215.	108.	86.	22.0	500.	250.	125.	100.	26.0
125	900.	450.	188.			520.	260.	130.	104.	27.0	600.	300.	150.	120.	31.
150	1070.	535.	223.			640.	320.	160.	128.	33.	740.	370.	185.	148.	38.
175		640.	265.				360.	180.	145.	37.		420.	210.	170.	43.
200		700.	293.				415.	210.	165.	43.		480.	240.	195.	49.
225		810.	340.				460.	230.	185.	47.		530.	265.	215.	55.
250		880.	370.				520.	260.	205.	53.		600.	300.	240.	62.
275		970.	405.				570.	285.	225.	59.		660.	330.	265.	68.
300		1050.	440.				620.	310.	245.	64.		720.	360.	290.	74.
350			515.					360.	290.	75.			420.	335.	87.
400			585.					405.	320.	83.			465.	370.	95.
450			650.					465.	370.	95.			535.	430.	110.
500			725.					520.	415.	105.			600.	480.	123.
600			855.					620.	495.	125.			715.	572.	147.
750			1075.					755.	605.	155.			785.	700.	180.
1000			1420.					1035.	825.	215.			1150.	960.	245.

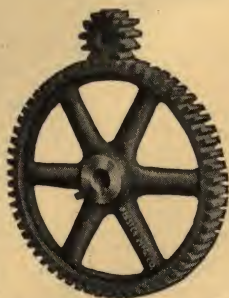
Slip-ring Induction Motors

H. P. of Motor	Two-PHASE					Three-PHASE				
	110- volt	220- volt	440- volt	550- volt	2200- volt	110- volt	220- volt	440- volt	550- volt	2200- volt
1/4	2.2	1.1	0.5	0.4		2.6	1.3	0.6	0.5	
1/2	3.8	1.9	1.0	0.8		4.4	2.2	1.1	0.9	
3/4	5.2	2.6	1.3	1.1		6.0	3.0	1.5	1.2	
1	7.1	3.6	1.8	1.4		8.2	4.1	2.2	1.6	
1 1/2	9.5	4.8	2.4	1.9		11.0	5.5	2.8	2.2	
2	13.7	6.4	3.2	2.7		15.8	7.4	3.7	3.0	
3	18.0	9.1	4.6	3.6		21.0	10.5	5.3	4.2	
5	28.0	14.0	7.0	5.6		32.	16.0	8.0	6.4	
7 1/2	40.	20.0	10.0	8.0		46.	23.0	11.5	9.2	
10	50.	25.0	13.0	10.0		58.	29.0	15.0	11.6	
15	73.	36.	18.0	14.6	3.7	84.	42.	21.0	16.8	4.3
20	97.	48.	24.0	19.0	5.0	112.	56.	28.0	23.0	5.8
25	121.	61.	30.	24.0	6.3	140.	70.	35.	28.0	7.2
30	140.	70.	35.	28.0	7.2	162.	81.	41.	33.	8.4
40	182.	91.	46.	36.	9.4	210.	105.	53.	42.	10.8
50	225.	113.	56.	45.	11.7	260.	130.	65.	52.	13.4
60	269.	135.	67.	53.	14.0	310.	155.	78.	62.	16.0
75	330.	165.	82.	66.	17.0	380.	190.	95.	76.	20.0
100	440.	220.	110.	88.	23.0	510.	255.	128.	102.	26.0
125	550.	270.	135.	108.	28.0	620.	310.	155.	124.	32.
150	660.	330.	165.	132.	34.	760.	380.	190.	152.	39.
175		370.	185.	150.	38.		430.	215.	172.	44.
200		420.	210.	170.	43.		490.	245.	195.	50.
225		480.	240.	190.	50.		540.	270.	215.	55.
250		530.	265.	212.	55.		610.	305.	245.	63.
275		580.	290.	234.	60.		670.	335.	270.	69.
300		620.	310.	241.	64.		730.	365.	290.	75.
350			370.	295.	76.			425.	340.	88.
400			405.	325.	84.			470.	375.	97.
450			470.	375.	97.			540.	435.	111.
500			525.	420.	108.			605.	485.	125.
600			625.	500.	125.			720.	576.	148.
750			760.	610.	157.			880.	705.	181.
1000			1045.	840.	215.			1205.	960.	248.



Useful Information

Pulleys and Gears



For single reduction or increase of speed by means of belting where the speed at which each shaft should run is known, and one pulley is in place:

Multiply the diameter of the pulley which you have by the number of revolutions per minute that its shaft makes; divide this product by the speed in revolutions per minute at which the second shaft should run. The result is the diameter of pulley to use.

Where both shafts with pulleys are in operation and the speed of one is known:

Multiply the speed of the shaft by diameter of its pulley and divide this product by diameter of pulley on the other shaft. The result is the speed of the second shaft:

Where a countershaft is used, to obtain size of main driving or driven pulley, or speed of main driving or driven shaft, it is necessary to calculate, as above, between the known end of the transmission and the countershaft, then repeat this calculation between the countershaft and the unknown end.

A set of gears of the same pitch transmits speeds in proportion to the number of teeth they contain. Count the number of teeth in the gear wheel and use this quantity instead of the diameter of pulley, mentioned above, to obtain number of teeth cut in unknown gear, or speed of second shaft.

Rule for Finding Size of Pulleys

$$d = \frac{D \times S}{S'}$$

$$D = \frac{d \times S'}{S}$$

d=diameter of driven pulley.

D=diameter of driving pulley.

S=number of revolutions per minute of driving pulley.

S'=number of revolutions per minute of driven pulley.

Shafting, Belting, Pulleys and Gears

Shafting

The rule for determining the size of shaft for transmitting a given power at a given speed (8-foot centers for hangers) is as follows:

$$\sqrt[3]{\frac{H. P. \times 80}{R. P. M.}} = \text{diameter in inches.}$$

When "H. P."=the horse power to be transmitted,
"R. P. M."—the revolutions per minute.

Belts

The following formula is used to determine the length of belting:

$$\frac{(D+d \times 3.16)}{2} \times 2D^1 = \text{length.}$$

When D=diameter of large pulley, d=diameter of small pulley, and D¹=distance between centers of shafting.

Rule for Finding Width of Belts

When Speed of Belt in Feet per Minute and Horse Power Wanted are Given

FOR SINGLE BELTS—Divide the speed of belt by 8. The horse power wanted divided by this quotient will give the width of belt required.

EXAMPLE—Required the width of single belt to transmit 100 horse power. Engine pulley 72 inches in diameter; speed of engine, 220 revolutions per minute.
8)4144 (speed of belt per minute).

518)100₀₀ (horse power wanted).

19 inches (width of belt required).

FOR DOUBLE BELTS—Divide the speed of belt in feet per minute by 56. Divide the horse power wanted by this quotient for the width of belt required.

EXAMPLE—Required the width of double belt to transmit 500 horse power. Engine pulley, 72 inches in diameter; speed of engine, 220 revolutions per minute.
56)4144 (speed of belt per minute).

74)500₀₀ (horse power wanted)

67½ inches (width of belt required).

Tension

More belts and machinery are injured by lack of proper understanding of this subject, than by any other cause. Vertical belts require extra (not excessive) tension, as it is necessary to obtain sufficient friction on the lower pulley. As far as possible avoid vertical transmission.

There are no absolute rules on this subject, as the conditions under which belts are used vary in many respects. From observation made by engineers we suggest the following schedule:

No. of Plies	Tension, Lbs. per Inch of Width of Belt	No. of Plies	Tension, Lbs. per Inch of Width of Belt	No. of Plies	Tension, Lbs. per Inch of Width of Belt
3	30 to 40	5	70 to 90	7	110 to 130
4	50 " 70	6	90 " 110	8	130 " 150

Care should be taken that the tension is never sufficient to heat the bearings. Excessive tension is injurious.

Horse Power Transmitted by Leather Belts

Driving Power of Single Belts

Speed, Feet per Min.	2	3	4	5	6	8	10	12	14
400	1	1½	2	2½	3	4	5	6	7
600	1½	2¼	3	3¾	4½	6	7½	9	10½
800	2	3	4	5	6	8	10	12	14
1000	2½	3¾	5	6¼	7½	10	12½	15	17½
1200	3	4½	7	7½	9	12	15	18	21
1500	3¾	5¼	7½	9½	11½	15	18¾	22½	26½
1800	4½	6¾	9	11¼	13½	18	22½	27	31½
2000	5	7½	10	12½	15	20	25	30	35
2400	6	9	12	15	18	24	30	36	42
2800	7	10½	14	17½	21	28	35	42	49
3000	7½	11¼	15	18¾	22½	30	37½	45	52½
3500	8¾	13	17½	22	26	35	44	52½	61
4000	10	15	20	25	30	40	50	60	70
4500	11¼	17	22½	28	34	45	57	69	78
5000	12½	19	25	31	37½	50	62½	75	87

Driving Power of Double Belts

Speed, Feet per Min.	6	8	10	12	14	16	18	20	24
400	4½	5½	7½	8½	10	11½	13	14½	17½
600	6½	8½	11	13	15	17½	19½	22	26
800	8½	11½	14½	17½	20½	23	26	29	34½
1000	11	14½	18½	21½	25½	29	32½	36	43½
1200	13	17½	22	26	30½	34½	39	44	52½
1500	16½	21½	27½	32½	38	43½	49	54½	65½
1800	19½	26	32½	39	45½	52	59	65½	78½
2000	21½	29	36½	43½	50½	58	65½	72½	87
2400	26	34½	44	52½	60½	69½	78½	88	105
2800	30½	40½	51	61	71	81	91½	102	122
3000	32½	43½	54½	65½	76	87½	98	108	131
3500	38	50½	63½	76	89	101	114	127	153
4000	43½	58½	72½	87	101	116	131	145	174
4500	49	65	82	98	114	131	147	163	196
5000	54½	72½	91	109	127	145	163	182	218



Alternating Current Generators and Motors

ALTERNATING CURRENT GENERATORS are built in two types, known respectively as revolving field and revolving armature. The common names of the two sets of windings are rotor and stator. The revolving field type machine is the most commonly used type, because of the field current having only to pass through the brushes and collector rings and the high tension wires are all stationary. Alternating Current Generators are separately excited. That is, the field current is supplied from an auxiliary D. C. generator, known as an exciter. The current supplied from an A. C. Generator alternates in direction at regular intervals, and from this characteristic is derived the terms "frequency" or "cycles," which always has a numerical value which defines the period of the alternations. The most generally adopted systems operate at either 60 cycles, 7200 alternations, or 25 cycles, 3000 alternations, while there are some Central Stations which supply either 40 cycle, 50 cycle, or 133 cycle current. Alternating current is generated single, two or three phase, two and three phase systems being the most generally used, because of their being better adapted for the operation of large motors.

ALTERNATING CURRENT MOTORS are constructed single, two and three phase, and of many different types, and for all frequencies and synchronous speeds.

SINGLE-PHASE MOTORS.—Single-phase motors are built in several different types, viz.: Repulsion, Repulsion Induction, and Induction Types, and are for constant or variable speed service. The Repulsion Induction Type is the most generally used of all single-phase motors and furnished for constant and variable speed.

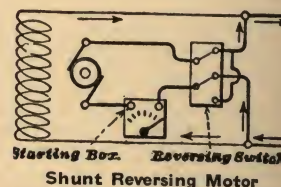
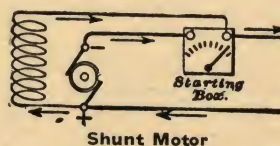
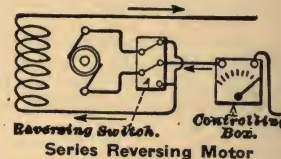
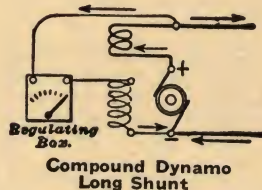
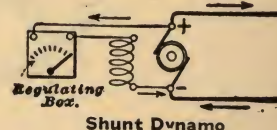
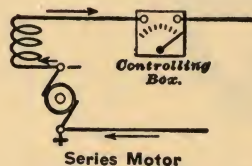
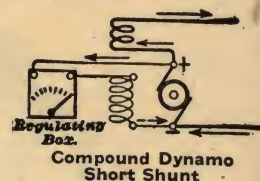
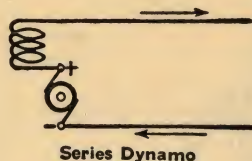
POLYPHASE INDUCTION MOTORS.—Polyphase Induction Motors are built in two types viz.: Squirrel Cage and Slip-Ring or Wire Wound Rotor Types. The Squirrel Cage Rotor Type motor has a nearly constant speed (starting torque high), and is the type most generally used for driving machinery. The Slip-ring motor is adapted for speed variation ranging from 50% to 100% and is also used for constant speed service. Both Squirrel Cage and Slip-ring type motors can be supplied for any frequency or voltage and for different speeds.

STARTING TORQUE.—The starting torque of a constant speed motor is twice full load torque on full voltage. In general, the torque varies as the square of the applied voltage. The reason for using a reduced E. M. F. at starting is to reduce the sudden shock which may throw off belts or cause mechanical injury, and to reduce the starting current. When 50% voltage is applied to the motor, half full load torque is given.

SYNCHRONOUS MOTORS are principally used for power factor correction and are also sometimes called "Synchronous Condensers," because they can be operated at a leading current to raise the power factor of an A. C. system. Synchronous motors for driving power are equipped with an extra starting winding, which will give from 30% to 50% full load torque, and will operate at a constant or synchronous speed with no slip. It is advisable to have one or more synchronous motors on all A. C. systems.

STARTING OF SYNCHRONOUS MOTORS.—The starting of synchronous motors differs from the starting of induction motors, due to the fact that they have a field which is supplied from an auxiliary, known as an exciter. Before starting the motor, first see that the field discharge switch is open from the field of the motor, but the motor field must be short circuited through the field discharge resistance. To stop the motor, first turn the rheostat back to the zero power factor position, then open the field switch and throw off the compensator, the switches and rheostat being in position for next starting. If a synchronous motor which has sufficient starting torque to meet the load conditions should fail to start when the current is thrown into the stator windings, it is probably due to the "standing" relation of the field to the stator windings, because of there being an equal number of stator to rotor coils, and should they both be in a central position to each other, the rotor will not have any starting torque. To remedy this move the rotor a slight distance in either direction, and the motor will then start.

Connections and Data on D.C. Generators and Motors



The various types of direct current motors and generators are known relatively by the field windings, as series, shunt, compound and interpole. They are generally self-exciting but can be separately excited, in which case they are usually supplied with current from an outside source, such as a storage battery or another generator.

SERIES.—The field flux increases as the load current increases. In a series wound machine the field winding is in series with the armature. The speed of a series motor varies with the load. Its torque also increases with the increase of load and decreases with speed. The armature is at the highest speed at no load, and minimum speed at full load. Series motors are mostly used for driving exhaust fans, traction work, etc.

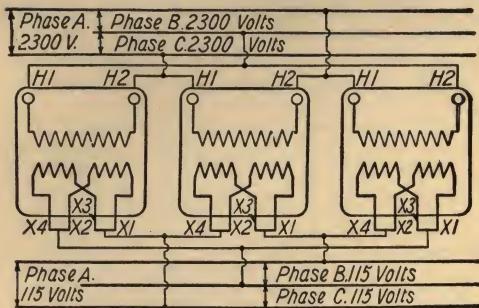
SHUNT.—The field flux is practically constant at all loads. In a shunt wound machine a small portion of the current is shunted through the field winding. Shunt wound motors run at almost constant speed, with constant E. M. F. even though the load varies. Shunt wound generators are used for storage batteries, or any duty which requires a variation of E. M. F. Shunt wound motors are most suited for general work such as driving counter shafts, and constant speed machinery.

COMPOUND.—The field flux increases slightly with the load current. In a compound wound machine the field has two sets of windings, a shunt winding and a series winding. The shunt winding furnishes the initial field strength, while the series winding furnishes a varying field strength, increasing or decreasing with the load. This automatic variation of field excitation maintains a constant voltage if from a generator, and an automatic speed control if used as a motor on constantly varying loads requiring automatic torque variation. Mostly used for elevator service.

INTERPOLE.—The interpole motor or generator is sometimes known as "commutating pole type," because of its having an extra set of poles for the purpose of producing sparkless operation under extreme conditions of service. The field windings of the interpole machine are made series, shunt or compound. Highly recommended for all classes of service in preference to other types.

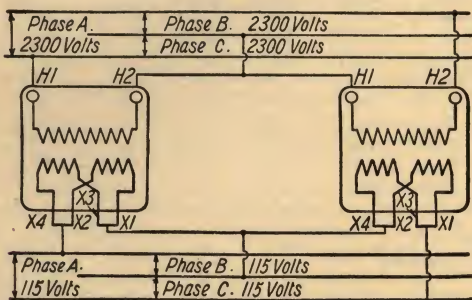


Transformer Connections No. 1



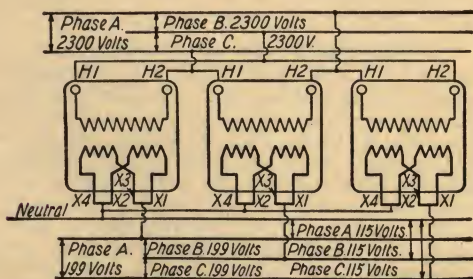
Three phase 3 wire "Closed Delta" primary to three phase 3 wire "Closed Delta" secondary.

No. 2



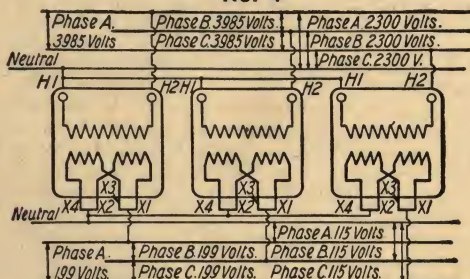
Three phase 3 wire "Open Delta" primary to three phase 3 wire "Open Delta" secondary. "Open Delta" connection, as shown, will deliver only 87 per cent of rated capacity and may cause line disturbances due to unbalancing. Only recommended in cases of emergency.

No. 3



Three phase 3 wire "Closed Delta" primary to 3 phase 4 wire "Star" secondary.

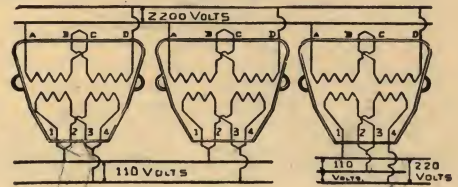
No. 4



Three phase 4 wire "Star" primary to three phase 4 wire "Star" secondary.

NOTE.—Connections shown are for 2300 volts primaries, with secondaries arranged for 20 to 1 ratio. To change secondaries for 230 volts or 10 to 1 ratio, connect X2 and X3 together (in series) in each transformer, first disconnecting X2 and X3 from X1 and X4.

Transformer Connections Continued No. 5

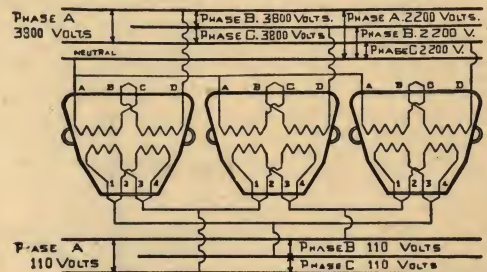


Single-phase 2-wire primary to single-phase 3-wire and also 3-wire secondary.

See note.

Two-phase 4-wire primary to two-phase 4-wire secondary. Connect transformers, one on each phase as per diagram Fig. 5. See note.

No. 6



Three-phase 4-wire "Star" primary to three phase 3-wire "Closed Delta" secondary.

See note.

No. 7

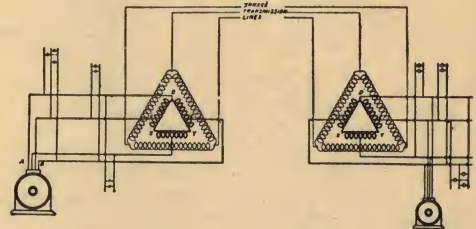


Diagram showing connections of Pittsburgh method of transformation, three-phase 3-wire to two-phase 4-wire and three-phase 3-wire. Transformers are here connected in "Closed Delta," using three single-phase units.

No. 8

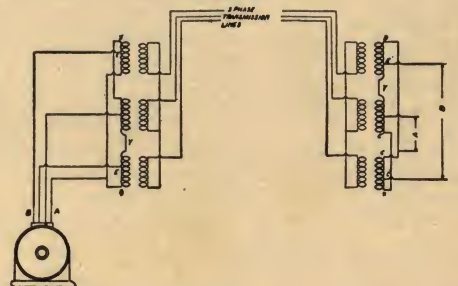


Diagram showing connections of Pittsburgh method of transformation, three-phase 3-wire to two-phase 4-wire. Transformers are here connected in "Star," using three single-phase units.

Transformer Capacity for Motors

In selecting proper size transformers for motors for either 1, 2 or three-phase 1-KVA transformer capacity should be allowed for each motor horse power.

NOTE.—Connections shown are for 2200 volts primaries, with secondaries arranged for 20 to 1 ratio. To change secondaries for 220 volts or 10 to 1 ratio, connect 2 and 3 together (in series) in each transformer, first disconnecting 2 and 3 from 1 and 4. To change primaries from 2200 volts line as shown to 1100 volts line, disconnect B and C. and connect B to A and C to D in each transformer.



Standard Line Construction

Spacing of High Tension Transmission Lines

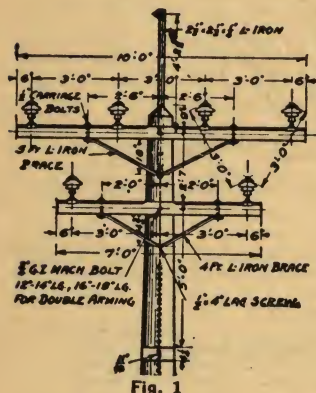


Fig. 1

to some extent and local conditions will govern, but the accompanying values represent good commercial practice.

Operating Voltage	Separation Inches
2200	18 to 24
3300	18 " 24
6600	18 " 24
11000	18 " 24
15000	24 " 30
22000	30 " 36
33000	36 " 48
44000	48 " 60
66000	72
88000	96
110000	120

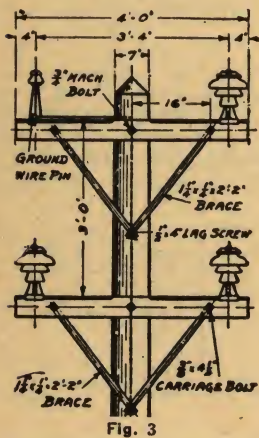


Fig. 3

system with a ground wire at the top.

Figure 3 shows a 33000-volt system with a ground wire on the top cross-arm.

Figure 4 shows a 33000-volt system without the ground wire. This latter type of construction is only recommended where the lowest possible cost line must be installed.

When a ground wire is used, it should be of the same size as the line wire and well grounded at every fifth pole. A 1-inch wooden molding strip can be used below the cross-arms.

It is important that the spacing and construction should be such as to prevent lines from swinging together or against the towers or poles when subjected to wind pressure. Careful attention should be given to the fact that with the suspension type of disc insulator the radius of free movement is materially increased.

Excessive spacing distances must be guarded against in order to keep the self-induction of the system at a minimum value. Authorities vary

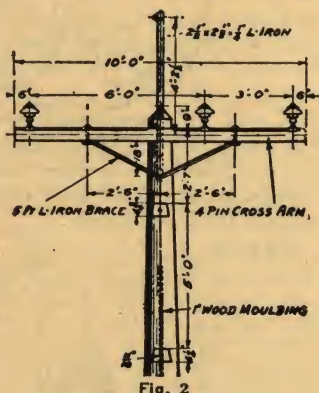


Fig. 2

33000-volt 3-phase Pole Construction

The use of 33000-volt 3-phase transmission is highly desirable for supplying large areas, and its reliability and economy are well known. The pole constructions shown have been adopted for some very large systems and can be installed at a reasonable cost. Low voltage or secondary circuits can be run on the same poles by locating cross-arms below the high tension lines.

Figure 1 shows two 33000-volt systems with ground wire at the top of the poles.

Figure 2 shows one 33000-volt

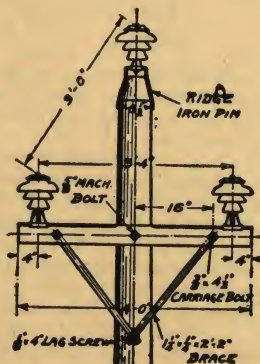


Fig. 4

Depth of Pole Setting

In sandy or swamp ground, oil barrels or casks set in the ground will materially assist in securing substantial pole foundations. The following specifications are recommended for the depth in feet of holes:

Solid Ground			Soft Ground		
Line (Height)	Poles (Depth)	Corners	Line	Corners	Solid Rock
22	5	5	5	5	3
25	5	5 1/2	5 1/2	6	3
30	5	5 1/2	6	6 1/2	3 1/2
35	6	6 1/2	6 1/2	7	4
40	6 1/2	7	7	7 1/2	4
45	6 1/2	7	7	7 1/2	4 1/2
50	7	7 1/2	7 1/2	8	4 1/2
55	7 1/2	8	8	8 1/2	5
60	8	8 1/2	8 1/2	9	5 1/2
65	8 1/2	9	9	9 1/2	5 1/2

Guy stubs should be set not less than 7 feet in any soil except solid rock.

Cedar Poles for Electric Light Work

Height Feet	Size Top Inches	Average Wt., Lbs. Each	No. of Poles to a Car	Height Feet	Size Top Inches	Average Wt., Lbs. Each	No. of Poles to a Car
25	5	200	150	35	7	650	90
25	5 1/2	225	130	40	6	800	80
25	6	250	100	40	7	900	75
28	7	400	80	45	6	900	70
30	5	300	110	45	7	1000	65
30	6	350	90	50	6	1200	55
30	7	420	75	55	6	1400	45
35	6	550	100				

Wind Pressures

Velocity	37	53	65	75	83	91	105	119	130
Pounds per Sq.									

ft. 5 10 15 20 25 30 40 50 60

The pressures given above are such as would be exerted against a flat surface set perpendicularly to the direction of the wind. For a cylindrical surface like a pole or wire, the effective pressure is two-thirds of what it would be for a square surface of the same area as the cylinder. It is considered that an allowance of from 20 to 30 pounds per square foot of area for pole lines is ample. The above table was calculated from Professor Langley's formula, $P = .0036V^2$, in which P is the pressure per square foot of surface in pounds, and V is the velocity of the wind.

General Construction Rules

SIZE OF HOLES.—The holes should be large enough to permit the free entrance of the poles, and should be full size at the bottom so as to admit of the use of tampers.

TAMPING POLE HOLES.—All pole holes, except those in very hard gravel or rock formations, should be tamped so thoroughly that the necessity for hauling away excess dirt is obviated.

PROTECTING POLES.—Where corner poles or other poles are exposed to injury from whittling, pole butt should be well painted and heavily sanded. If this is not sufficient in any special case, the pole butt should be wound with No. 10 galvanized wire, spaced 1/2 inch apart, painted and sanded.

PAINTING POLES.—The top and galls of all poles should be painted with one or more coats of approved paint. All poles which are protected by strain plates or shims from the cutting of messengers or guys, should be painted with one or more coats of approved paint on the space occupied by the strain plate.

FACING ARMS (CITY CONSTRUCTION).—At long spans the cross arms should be placed on the side of the poles away from the long spans. Arms on poles should face the originating source of the lead, or face to face, depending on the general condition, except corner pole; then it should face the corner. At the terminals of a lead, the last two poles should face away from the originating source. On corners, arms should face the point of intersection of curb lines, thus facing each other. First arm each side of the corner should ordinarily face the corner.

ON CURVES.—Arms each side of center of curve should face the center of curve.

LOCATION OF POLES AND ANCHORAGES.—Special attention should be given to location of poles, where the ground washes badly, where there are cuts or excavations, and along the banks of creeks or streams. Do not locate poles along the edges of cuts or embankments.



General Construction Rules

Continued

SPACING POLES.—In locating pole line, if it becomes necessary to either reduce or lengthen distance between poles on account of obstacles, objections of property holders, etc., the preference should be for the shorter spans.

LOCATION OF POLES AT STREET CROSSINGS.—In leading away from the originating end of the line when a cross street is reached, pole should not be located on the corners, but should be spaced to fall on the property line. In this connection, alleys may be regarded as street crossings.

ON STREETS.—Poles and stubs on streets should be set inside of and as near the curb line as possible.

IN ALLEYS.—Poles in alleys should be set as close as possible to the side lines of the alleys.

ON PROPERTY LINES.—Poles on streets should be located on or near property lines.

DISTRIBUTION OF POLES.—In distributing the poles, care should be taken to select the heaviest poles for corners and terminals and to place the straightest and best-looking poles on streets and in front of residences.

POLE FITTING AND SETTING—TRIMMING.—All poles that are rough in appearance should be smoothed, and knots should be trimmed close. Top of pole should be leveled with one cut of saw at right angles to length of pole, and edge should be beveled $\frac{3}{4}$ of an inch with a draw-knife.

FRAMING POLES.—Poles should be raised at the top and placed in a framing buck so that the heaviest sag or curve will be nearest the ground. If the pole be crooked or badly shaped it should be turned with cant hooks until the best side for framing is brought uppermost and the pole securely chocked. In this position it should first be roofed. Seven inches should be measured from the top of the pole, and this point should be the center of the top gaen. The succeeding gaens should be spaced 18 inches on centers. Gaens should be leveled with a straight edge or sighting sticks.

NOTE.—In alleys, poles stepped in line with alley as high as 12 to 15 feet; then turn at right angles to alley and continue to the top. This is to prevent liability of danger to top wagons in narrow alleys.

BUTTING POLES.—Every pole should be squared across the bottom before setting. This should be done with a crosscut saw, and not with an ax.

BRACES AND CROSS-ARM FITTING.—Arms should be sighted and leveled at right angles to pole length, and not parallel with the ground. This includes all corner poles.

A spirit level should not be used for leveling arms.

CANTING ARMS ON CORNERS.—When a lead makes a double corner or changes from one side of the street to the other, the last arm should set at right angles to the line of direction leading to the corner, and the first arm leading away should set at right angles to the line of direction leading away from the corner.

If the change of direction forms an angle of less than forty-five degrees, one or both corner arms may be canted slightly to secure the greatest space between lines. This should not be permissible where the angle is forty-five degrees or over.

CANTING ARMS ON SINGLE-POLE CORNERS.—The arm should set in a line that will divide in half the angle formed by the two lines of direction of the route.

On curves the inside of the arms should point to the common center of a circle of which the lead curve forms the circumference.

Single pole corners are not desirable and should not be used when the pull is over 20 feet, unless it is an unavoidable case.

GUY STUBS.—A guy stub in no case should be smaller in diameter at butt or top than the pole it supports, and should be as straight as possible on account of the tendency to buckle. A stub at the head of heavy lines should be as massive as possible.

A guy stub should be raked to position before filling hole, and should not be set straight and raked with the anchor guys. In the proportion that stub is curved or buckled its strength is decreased. No stub should be raked less than 24 inches.

Guy stubs holding a strain greater than a one-arm lead should measure 12 inches across the top or more, if procurable.

Resuscitation



1st. Lay patient on his back.

2nd. Move tongue back and forth by seizing it with a handkerchief or the fingers, while working the arms to induce respiration.

3rd. Don't pour anything down patient's throat.

4th. Try to cause patient to gasp by inserting the first and second fingers in the rectum and pressing them suddenly and forcibly toward the back.

5th. If possible procure oxygen gas, and try to get it into the lungs during the efforts at artificial respiration.

6th. Get a doctor as quickly as possible.

7th. Try to obtain artificial respiration. Victim of shock must be pulled out of circuit or disconnected from wires carrying the current. To do this, a stick of dry wood, a piece of dry cloth, a coat or soft felt hat, may be used. Means are taken familiar to the electrical man for removing the body from danger of this kind, the best being rubber gloves.

AIR IN THE LUNGS.—Patient must be made to breathe at once. Lay him on his back with a coat under his shoulders to throw out the chest. Then, lift arms over head and back again, until they press against chest. This will force air in and out of lungs, as required. A second person ought to assist in pulling tongue forward, when arms are raised above head, and let it fall back when arms press against the chest.

RATE OF BREATHING.—The rate of breathing produced artificially should be about sixteen times a minute.

JAWS LOCKED.—If jaws are locked by clenching of teeth, force open with a knife or spoon handle, so that tongue can be seized and moved as described.

EFFECT OF TONGUE ON TEETH.—By rubbing of the lower side of tongue on under row of teeth patient is apt to gasp automatically, and thus fill lungs with air. The fact that effect of this kind is possible is a good sign, and should be produced at intervals of a few seconds, if possible.

TIME OF KEEPING UP ARTIFICIAL RESPIRATION.—Operations indicated should not be discontinued for a long time. In many cases an hour or more is required before body begins to resume natural functions, as shown by beginnings of ordinary breathing.

THROAT FREE.—Throat must be free to admit air, when lungs are inhaling, by upward movement of arms. Movement is similar to that transpiring during process of yawning and stretching arms above head. Inhalation must be made as deep as possible and operations leading to it continued with systematic care until results are visible. Filling throat with back of tongue at wrong time, will mean failure. Therefore, movement of tongue back and forth must be intelligently performed.

PAPER CONE FOR OXYGEN GAS.—An inhaling cone may be made of paper, the larger end over the patient's face, and smaller end or stem attached to oxygen tank by means of rubber pipe. A little oxygen in the lungs causes strong heart action and operates to revive quickly.

FRICTION OF THE LIMBS.—Rubbing of body is a secondary means of hastening blood circulation. Inactivity of lungs and heart is due to temporary paralysis or shock caused by passage of current. Removal of this condition means resuscitation, part of which process may be carried by massage of body and limbs.

FIRST CARE OF BURNS.—After restoring respiration, burns should be attended to until a doctor comes. The bandage applied to burned surface, should be saturated with picric acid (0.5 per cent). If this is not at hand, use a solution of baking soda (one teaspoonful to a pint of water) or use a paste of flour and water, or a heavy oil, such as machine oil, linseed, carron or olive oil. Cover dressing with cotton, gauze or clean handkerchiefs, held lightly in place by a bandage. Coverings should be lightly bandaged over a dry, charred burn, but without wetting the burned region or applying oil to it. Do not open blisters.



Monthly Average of Copper 1890-1923

	Jan. Cts.	Feb. Cts.	March Cts.	April Cts.	May Cts.	June Cts.	July Cts.	Aug. Cts.	Sept. Cts.	Oct. Cts.	Nov. Cts.	Dec. Cts.	Yearly Average Dollars
1890	14 $\frac{1}{2}$	14 $\frac{1}{4}$	14 $\frac{1}{4}$	14 $\frac{1}{2}$	15	16 $\frac{1}{4}$	17	17	17	17	17	16	.15812
1891	15	15	14	14	13 $\frac{1}{2}$	13	13	12 $\frac{3}{8}$	12 $\frac{1}{2}$	12 $\frac{1}{4}$	11 $\frac{1}{2}$	11	.13093
1892	11	10 $\frac{3}{4}$	11 $\frac{1}{4}$	11 $\frac{7}{8}$	12	12	11 $\frac{3}{4}$	11 $\frac{5}{8}$	11 $\frac{1}{4}$	11 $\frac{1}{4}$	12	12 $\frac{1}{4}$	.11625
1893	12 $\frac{1}{8}$	12	11 $\frac{7}{8}$	11 $\frac{1}{2}$	11	10 $\frac{7}{8}$	10 $\frac{3}{8}$	9 $\frac{3}{4}$	9 $\frac{3}{4}$	9 $\frac{3}{4}$	10	10 $\frac{1}{8}$	.10781
1894	10	9 $\frac{3}{4}$	9 $\frac{3}{4}$	9 $\frac{1}{2}$	9 $\frac{3}{8}$	9 $\frac{1}{4}$	9 $\frac{1}{8}$	9 $\frac{1}{8}$	9 $\frac{1}{2}$	9 $\frac{1}{4}$	9 $\frac{1}{2}$	9 $\frac{1}{8}$	.095416
1895	10	9 $\frac{7}{8}$	9 $\frac{5}{8}$	9 $\frac{5}{8}$	10 $\frac{1}{2}$	10 $\frac{3}{4}$	11 $\frac{1}{8}$	12	12	12	11 $\frac{1}{2}$	10 $\frac{3}{4}$	.10812
1896	10	10 $\frac{3}{4}$	11	10 $\frac{7}{8}$	11 $\frac{1}{8}$	11 $\frac{5}{8}$	11 $\frac{1}{4}$	11	10 $\frac{3}{4}$	10 $\frac{3}{4}$	11 $\frac{5}{8}$	13 $\frac{3}{8}$	.10979
1897	11 $\frac{7}{8}$	12	11 $\frac{3}{4}$	11 $\frac{1}{2}$	11	11 $\frac{1}{4}$	11 $\frac{1}{8}$	11 $\frac{1}{4}$	11 $\frac{1}{4}$	11 $\frac{1}{8}$	10 $\frac{7}{8}$	11	.11333
1898	11 $\frac{1}{8}$	11 $\frac{3}{8}$	12	12	12	11 $\frac{7}{8}$	11 $\frac{5}{8}$	12	12 $\frac{3}{8}$	12 $\frac{1}{2}$	12 $\frac{7}{8}$	13	.12062
1899	15	18	18	18 $\frac{3}{8}$	18 $\frac{1}{2}$	18 $\frac{1}{4}$	18 $\frac{1}{2}$	18 $\frac{1}{2}$	18 $\frac{1}{2}$	18	17 $\frac{1}{4}$	16 $\frac{3}{4}$	.17802
1900	16 $\frac{1}{2}$	16 $\frac{1}{4}$	16 $\frac{5}{8}$	17	16 $\frac{3}{4}$	16 $\frac{1}{4}$	16 $\frac{1}{2}$	16 $\frac{5}{8}$	16 $\frac{3}{4}$	16 $\frac{3}{4}$	16 $\frac{7}{8}$	17	.16656
1901	16 $\frac{7}{8}$	17	17	17	17	17	17	16 $\frac{3}{4}$	16 $\frac{3}{4}$	16 $\frac{3}{4}$	16 $\frac{3}{4}$	14 $\frac{7}{8}$	.16729
1902	11 $\frac{5}{8}$	12 $\frac{3}{4}$	12 $\frac{3}{8}$	12 $\frac{1}{4}$	12 $\frac{3}{8}$	12 $\frac{1}{2}$	12 $\frac{1}{4}$	12	12	11 $\frac{7}{8}$	11 $\frac{3}{4}$	11 $\frac{3}{4}$	.12135
1903	12 $\frac{1}{2}$	13 $\frac{1}{8}$	14 $\frac{3}{4}$	15 $\frac{1}{4}$	15	14 $\frac{3}{4}$	13 $\frac{3}{4}$	13 $\frac{5}{8}$	13 $\frac{5}{8}$	13 $\frac{3}{8}$	13 $\frac{1}{4}$	12 $\frac{1}{2}$	.13791
1904	12 $\frac{3}{4}$	12 $\frac{1}{2}$	12 $\frac{3}{4}$	13 $\frac{3}{8}$	13 $\frac{1}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	13 $\frac{3}{8}$	14 $\frac{1}{8}$	15 $\frac{1}{8}$	.1325
1905	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{3}{8}$	15 $\frac{1}{4}$	15 $\frac{1}{8}$	15 $\frac{1}{8}$	16	16 $\frac{3}{4}$	16 $\frac{3}{4}$	17 $\frac{1}{4}$	19	.16093
1906	18 $\frac{3}{4}$	18 $\frac{1}{2}$	18 $\frac{5}{8}$	18 $\frac{3}{4}$	18 $\frac{7}{8}$	18 $\frac{7}{8}$	18 $\frac{3}{4}$	18 $\frac{7}{8}$	19 $\frac{1}{2}$	22	22 $\frac{3}{4}$	23 $\frac{1}{2}$	.19812
1907	25 $\frac{1}{4}$	25 $\frac{3}{4}$	26	26	26	26	23	18 $\frac{1}{2}$	16 $\frac{1}{2}$	13 $\frac{3}{4}$	13 $\frac{3}{8}$	13 $\frac{3}{4}$	.21177
1908	14	13 $\frac{1}{4}$	13	13	13	13	13	13 $\frac{3}{4}$	13 $\frac{3}{4}$	13 $\frac{3}{4}$	14 $\frac{1}{2}$	14 $\frac{1}{2}$	.1354
1909	14 $\frac{3}{8}$	13 $\frac{1}{4}$	12 $\frac{7}{8}$	13	13 $\frac{1}{4}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{4}$	13 $\frac{1}{8}$	13 $\frac{3}{8}$	13 $\frac{3}{4}$	.1342
1910	13 $\frac{7}{8}$	13 $\frac{1}{8}$	13 $\frac{3}{4}$	13 $\frac{1}{4}$	13	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{7}{8}$	13	13	.13135
1911	12 $\frac{7}{8}$	12 $\frac{3}{4}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{3}{8}$	12 $\frac{5}{8}$	12 $\frac{3}{4}$	12 $\frac{3}{4}$	12 $\frac{5}{8}$	12 $\frac{1}{2}$	12 $\frac{7}{8}$	13 $\frac{7}{8}$	.1275
1912	14 $\frac{1}{2}$	14 $\frac{1}{2}$	15	16	16 $\frac{3}{8}$	17 $\frac{1}{2}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{7}{8}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	17 $\frac{3}{4}$	.16708
1913	17	15 $\frac{1}{2}$	15 $\frac{1}{8}$	15 $\frac{3}{4}$	15 $\frac{7}{8}$	15 $\frac{3}{8}$	14 $\frac{3}{4}$	15 $\frac{5}{8}$	16 $\frac{7}{8}$	16 $\frac{7}{8}$	16 $\frac{1}{4}$	15	.15833
1914	14 $\frac{3}{4}$	15 $\frac{1}{8}$	15	14 $\frac{7}{8}$	14 $\frac{3}{4}$	14 $\frac{3}{8}$	14 $\frac{1}{8}$	13	12 $\frac{7}{8}$	12 $\frac{1}{4}$	12 $\frac{1}{4}$	13 $\frac{1}{2}$	.13906
1915	14 $\frac{1}{8}$	15 $\frac{1}{4}$	15 $\frac{3}{4}$	18 $\frac{1}{2}$	22 $\frac{1}{2}$	22 $\frac{1}{2}$	22 $\frac{1}{4}$	19 $\frac{1}{2}$	18 $\frac{1}{2}$	18 $\frac{1}{4}$	19 $\frac{3}{8}$	20 $\frac{3}{4}$	.189375
1916	24 $\frac{3}{4}$	27 $\frac{3}{4}$	28	29	29 $\frac{7}{8}$	28 $\frac{1}{4}$	27 $\frac{1}{4}$	27	28	28 $\frac{7}{8}$	33 $\frac{1}{4}$	34 $\frac{1}{4}$	.28854
1917	32 $\frac{1}{4}$	35 $\frac{1}{4}$	35 $\frac{1}{2}$	32 $\frac{3}{4}$	32	32 $\frac{1}{2}$	30 $\frac{7}{8}$	29	27 $\frac{1}{4}$	27	23 $\frac{1}{2}$	23 $\frac{1}{2}$	.301146
1918	*23 $\frac{1}{2}$	*23 $\frac{1}{2}$	*23 $\frac{1}{2}$	*23 $\frac{1}{2}$	*23 $\frac{1}{2}$	*23 $\frac{1}{2}$	*25.92	*26	*26	*26	*26	*26	.24743
1919	23	18	15 $\frac{1}{2}$	15 $\frac{1}{2}$	16 $\frac{3}{8}$	17 $\frac{3}{4}$	22	23	22 $\frac{1}{2}$	22 $\frac{1}{4}$	21	18 $\frac{3}{4}$	.19635
1920	19 $\frac{1}{4}$	19 $\frac{1}{8}$	18 $\frac{7}{8}$	19 $\frac{1}{8}$	19	18 $\frac{1}{2}$	19	18 $\frac{3}{4}$	18 $\frac{3}{4}$	16 $\frac{7}{8}$	15 $\frac{1}{4}$	14 $\frac{1}{4}$	.18062
1921	13 $\frac{3}{4}$	13 $\frac{1}{2}$	12 $\frac{5}{8}$	12 $\frac{3}{4}$	13 $\frac{1}{8}$	13 $\frac{1}{8}$	12 $\frac{7}{8}$	12 $\frac{1}{4}$	12 $\frac{3}{8}$	13 $\frac{1}{8}$	13 $\frac{3}{8}$	13 $\frac{7}{8}$	.130625
1922	13 $\frac{7}{8}$	13 $\frac{3}{8}$	13 $\frac{1}{8}$	13	13 $\frac{3}{8}$	14	14 $\frac{1}{8}$	14 $\frac{1}{8}$	14 $\frac{1}{4}$	14 $\frac{1}{4}$	14 $\frac{1}{8}$	14 $\frac{1}{2}$	.138437
1923	14 $\frac{1}{8}$	15 $\frac{3}{4}$	17 $\frac{1}{4}$	17 $\frac{1}{8}$	16 $\frac{1}{8}$	15 $\frac{1}{4}$	15	14 $\frac{1}{2}$	14	13 $\frac{1}{4}$	13 $\frac{3}{8}$	13 $\frac{1}{4}$	.14979

*Government prices.

Table Showing Discount Equivalents

Per Cent	16 $\frac{1}{2}$ %	25%	30%	33 $\frac{1}{3}$ %	40%	45%	50%	60%	65%	66 $\frac{2}{3}$ %	7%	85%	87 $\frac{1}{2}$ %
5	7917	7125	665	6333	57	5225	475	38	3325	3167	285	1425	1188
5-2 $\frac{1}{2}$	7719	6947	6484	6175	5557	5094	4631	3705	3242	3087	2778	1398	1158
7 $\frac{1}{2}$	7708	6938	6475	6167	555	5088	4625	37	3238	3083	2775	1388	1156
10-2 $\frac{1}{2}$	7311	6581	6143	585	5265	4826	4388	351	3071	2925	2632	1316	1097
10-5	7124	6413	5985	57	513	4703	4275	342	2993	285	2565	1283	1069
10-5-2 $\frac{1}{2}$	6945	6252	5835	5558	5002	4585	4168	3334	2918	2779	25	125	1042
10-10	675	6075	567	54	486	4455	405	3204	2835	27	243	1215	1013
10-10-2 $\frac{1}{2}$	6581	5923	5528	5265	4739	4344	3949	3159	2764	2633	2369	1185	9987
10-8-5	6554	59	5506	5244	472	4326	3933	3146	2753	2622	2360	118	9983
10-10-5	6413	5773	5387	513	4617	4232	3848	3078	2693	2565	2308	1154	9962
10-10-5-2 $\frac{1}{2}$	6252	5627	5253	5001	4502	4126	3751	3001	2526	2502	2247	1125	9938
10-16 $\frac{2}{3}$	6251	5626	5251	5001	4501	4126	3751	30	2625	2501	225	1125	9938
10-8-5-5	6227	5605	5231	4982	4484	411	3737	2989	2616	2491	2242	1121	9934
10-10-10	6075	5468	5103	486	4374	401	3645	2916	2552	243	2187	1094	9911
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10-10-10-5	5923	5331	4975	4739	4265	391	3554	2843	2488	2369	2132	1067	9889
10-10-10-5-2 $\frac{1}{2}$	5771	5194	4847	4617	4155	3809	3463	277	2424	2309	2077	1039	9866
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16 $\frac{2}{3}$ -5	6946	6251	5834	5556	50	4582	4167	3334	2917	2779	25	125	104
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